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A LAND POLICY AS A PART OF AN AGRICULTURAL PROGRAM[1]

GEORGE S. WEHRWEIN

INSTITUTE FOR RESEARCH IN LAND ECONOMICS AND PUBLIC UTILITIES

A land policy implies a conscious program of social control with respect to utilization, ownership, and acquisition of land and the human relations arising out of its use and ownership. Such a policy may be the result of direct public action by the federal, state, or local governments expressed in law, or it may take the form of indirect actions by state bodies, administrative units, or institutions. In many cases it takes the more subtle form of public approval or acquiescence in the work of semi-public or even private effort in regard to the utilization of land. The present paper deals only with such phases of a land policy as relate to the expansion of agricultural land.

A proper policy with regard to the expansion of agricultural land can be stated in a few words. The ideal is balanced production. The time, rate, and method of expansion, as well as the selection of land to be brought under the plow should be controlled. The land resources of the nation ought to be classified and each class of land put into its proper use for the given time and place, making due allowance for future expansion, however. This is so simple and general that it will be accepted without serious objection as a part of an agricultural program. But to put such a policy into practice is not

[1] This paper was read at the Fifteenth Annual Meeting of the American Farm Economic Association, held in Chicago, December 31, 1924.

as easy as merely stating it. Clearing the land precedes production; similarly a workable comprehensive land policy will not be enacted until the ground is cleared of obstructions in the form of present policies, attitudes, and the state of mind of our people with respect to land. It shall be our purpose to examine these "obstructions" rather than to elaborate a land policy.

In the past the land policy of the federal government and of the several states has been to turn public land into privately owned land as expeditiously as possible. An examination of past land acts will show that we started with an attempt to *sell* land and ended by giving it away with certain conditions whose purpose was to secure for the nation a body of freehold farmers "sitting under their own vines and fig trees." The purpose also implied that such land would and should be used for agriculture. The early pioneers destroyed the trees to make room for farms. Later the saw mill performed this task for them and until 1880 the farmer was able to keep pace with the lumberman and make "farms follow forests." Since then an ever-increasing area of idle cut-over lands has been created, now consisting of almost a half a billion acres, mostly privately owned, which has seriously complicated our problem.

Another idea inferred or implied in our past land policies is that a farm is a more or less self-sufficing unit. The structure of agricultural society according to such a conception is a body composed of many independent organisms each for itself economically, but socially united to form a rural community. The more farmers there are the better; the more neighbors there will be to support the schools, construct the roads, build the churches, and pay the taxes. This idea is expressed by the founders and supporters of the reclamation idea when they hoped to create "a great number of self-supporting farms."[2]

The same idea persists in another form among those who emphasize the farm as a mode of living, or a home instead of a business. There is a large element of truth in this con-

[2] F. H. Newell "Twenty Years of Reclamation" in *A Survey of Reclamation*, a series of articles from *Engineering News Record*, October to December, 1923, McGraw Hill Co. (1923).
Elwood Mead "The Future of Reclamation," *Country Gentleman*, Nov. 29, 1924, p. 7.

ception, but what is often forgotten is that the mode of living can be on no higher plane than the farm as a business can support. Electric lights, bath rooms, and conveniences are the result of an income and do not come out of thin air. Consequently a great many people seem to think that the ordinary laws of economics do not apply to agriculture. Cartoons showing a smiling farmer with his barns bursting with plenty were to the point when the farm was in the primitive self-sufficing stage. Today generosity on the part of providence generally means a slump in prices. A full barn may mean a lean pocketbook. Yet a famous statesman has said that something must be wrong if a large crop does not sell for more than a small one!

Such a conception of agriculture leads to the conclusion that there can never be too many farms, or, in terms of land economics, there cannot be too much land in agricultural use. And as long as the self-sufficing economy lasted there was no marked conflict between sections or serious competition of farmer with farmer. But several factors were destined to change this. The first was the development of water and railroad transportation; the second was the perfection of farm machinery, which gave a great advantage to the West. From then on, the West became the competitor of the East, causing great shifts in land utilization and land values. The farmer on the reclamation projects has likewise entered the national market with his produce. Where in the early days, as Dr. Teele says, he used cheap water to produce for a high-priced local market he now uses high-priced water to compete with crops grown without irrigation.[3]

But instead of a number of separate organisms each sufficient unto itself modern farms are a part of a complex industrial structure. If agriculture is thrown out of balance through over-production, it is subject to the same phenomena as is any other industry. Agriculture is on a par with other great industries in the modern industrial organization. There is no longer one so-called "basic industry." Says a farmer in the December *Atlantic Monthly*, "None

[3] R. P. Teele, "Land Reclamation Policies in the United States," *U. S. Dept. of Agriculture Bulletin* No. 1257, p. 36.

of the essential industries come first. They come abreast. The total collapse of any great industry—such as mining, transportation, banking, and agriculture—would wreck civilization. The argument that production of food is all-important applies only to a primitive people."[4]

Our present land situation has been aggravated by the rapid creation of sovereign states, each a political unit burdened with the task of developing its resources and with the responsibility of providing for the upkeep of its government, its roads, schools, and the multitudinous welfare expenses of a modern state. The creation of "taxable values" is all-important. In the East the lack of these values in agriculture is counterbalanced and in fact overshadowed by the creation of such values in industry and commerce. But in the West this is not the case.

Rivalry for settlers began in colonial times and is just as active today as it was a hundred years ago. Wisconsin became a state in 1848 but in 1853 had an emigration commissioner at the port of New York to induce and assist emigrants to this state. Some of the states were active in this way before statehood was obtained. An interesting history could be written tracing the policies of the various states to induce settlers to take up their lands. These states are using the taxpayers' money to pay an officer or a bureau for the specific purpose of getting lands into agricultural use, and their action is therefore a vital part of an American land policy. But it is not the purpose here to criticize the actions of any particular state for the faults of a system.

Another important factor is that large tracts of potential farm land, largely cut-over land, have fallen into the hands of railroad companies, lumber corporations, and land companies. These companies are confronted by the burden of carrying this land, hence expensive high pressure salesmanship has been used to get the land sold. According to inquiries made by the Division of Land Settlement of the Department of Public Works of California[5] concerning the cost of "capturing settlers" this cost is by no means trivial. "In Canada each settler costs on an average $1,000.

[4] Glenn W. Birkett, "A Farmer Speaks Out," *Atlantic Monthly*, December, 1924, p. 763.

[5] 1922 Report, Part V, p. 16.

In Florida, Texas, and parts of the Middle West the cost ranges anywhere from $500 to $1,200 a settler. On the very high-priced land of California it has reached as high as $200 an acre and generally speaking it costs one-fourth of the selling price of the land."

The interests of land companies and of the states desiring settlement have been so identical that one can almost say that the land companies have operated under the "protection" of the state. Certainly the work of state land clearing experts, drainage men, county agents, and other federal and state officials has worked in direct harmony with the interests of the land-selling concerns. After the land is sold, these public agencies are ready to help the settler develop his farm and assist him with his difficulties. They are all a conscious or unconscious part of our land policy.

Another group of private interests are the Chambers of Commerce, Development Congresses, and like bodies supported by interested citizens for the purpose of bringing settlers into the states. Very often these work in close cooperation with state officials and private companies and in some states are substitutes for regular tax-supported immigration officials or commissions. These private agencies are the direct influences in our present land policy.

The effect of these policies and attitudes toward land of federal and state governments is evident to every observer. There probably never was a time when there was not too much farm land in use. There is a serious over-expansion at the present time.

We feel there is something wrong but we are constantly seeking remedies in everything but the cause of the overproduction. We hope to hold the waters in the channel by deepening the river bed through cooperative marketing, but no marketing system can secure a high price for an over-produced product. The earlier remedies were aimed at lowering production costs on the individual farm, but for the nation as a whole this program merely increased the supply of products. Vainly we jump from one system of farming to another; just now the dairy cow is supposed to help us out of every hole. Yet the Oregon Banking Bulletin for November, 1924, reports that the development of

cheese production in Idaho and in irrigated sections of the Northwest has set the limit to Oregon's development in that direction. Dairying can be overdone as well as wheat growing. Even the consumer is asked to relieve the over-abundance. He is being bombarded with advertising imploring him to eat more wheat, cranberries, raisins, meat, butter, cheese, milk, potatoes, until his doctor puts him on a diet.

Another effect of our policies has been the marketing of a great deal of submarginal land. Some of this has been deliberate, a great deal more of such land has been sold because people do not recognize submarginal land. To the credit of the immigration departments of some states it must be said that they have tried their best to guide the settler to the most suitable lands within the state and assist him in every way possible. The licensing of real estate dealers, certification of land, and similar regulatory acts are excellent features of some state land policies that must be commended.

Although most states now recognize that there are submarginal lands and that these should not be used for agriculture, like Egypt in Illinois, these are usually in "the next county south." "The fact remains that inefficient acres will go out of cultivation and the efficient acres will continue and increase their efficiency while new efficient acres will be developed," says a Michigan pamphlet. "The point I will try to make is that Michigan has efficient acres because Michigan has intrinsic agricultural advantages. The fact that other states have inefficient acres should not deter us from developing our efficient acres."[6] Similar sentiments could be quoted from publications of other states as well.

Our free land policy is partly responsible for this constant exchanging of so-called "worn out" acres for "efficient" acres. But another reason is that the country was settled more or less according to Carey's theory of the order of land utilization and the less desirable lands have had to drop out of agricultural use as new and better areas were brought under the plow. Nevertheless, there is a

[6] Ezra Levin, *Efficient Acres*, Michigan Department of Agriculture, April, 1922, p.p. 4 and 5.

great economic loss in creating farms at the expense of human lives and toil only to abandon them later, either because the land was submarginal to start with, or because it later became "inefficient" as the result of the over-expansion of farm land or for other causes. Moreover, inefficient acres do not go out of cultivation as rapidly as the above quoted statement suggests. As long as the owners are "bound by their investments" in equipment and improvements they will continue to produce, a fact which von Thünen and Patten observed long ago. That is why the Eastern farms have persisted and why land put into wheat during the World War continues to raise wheat. These submarginal farms add their quota to the general supply, reducing thereby the profits of the farmer on good land as well as on their own.

The over-expansion of agriculture and the bringing of marginal land into use is not due to the natural land hunger of the people so much as it is the result of the stimulation of these various interested agencies. It seems ridiculous to talk of land being "held out of use," of land being "monopolized," and of "pressure of population on land supply," when states are spending hundreds of thousands of dollars advertising a commodity which is considered absolutely indispensable to life. Why is it necessary for private land companies to spend 25 per cent of the selling price of land to sell this commodity when, according to some writers, there are armies of landless and land hungry men going about the country? Evidently the land market is still a "buyers' market."

Land economists have repeatedly said that there is too much land in agricultural use. The problem before us is to shape a land policy in accordance with the facts. If we cannot readily put land out of agricultural use we can at least prevent new lands from being added to our farm area. Competent observers give us no hope that Europe will in the future make any great demands upon our lands for her sustenance. While our own population is growing rapidly, the careful investigations of the land economists in the United States Department of Agriculture indicate that those who are pinning their faith

on the pressure of population to "take up the slack" and create a heavy demand for land in the next few decades are mistaken. With a population of 150 millions by 1950, a moderate increase in productivity per acre and but slight changes in our consumption, the addition of but 40 millions of acres of crop land and improved pasture will successfully maintain the increase in population. During the war decade we increased the area of crop land alone by 45 million acres; so this is not a formidable task. However, these new acres will have to be carefully selected out of the cut-over, semi-arid, irrigable, and drainable area in order to avoid bringing submarginal lands into use.[7]

If it were in the hands of some competent body to direct the time, the rate, the order, and the manner of expansion as well as to select the land to be brought into use, the problem might be a simple one. But it is my feeling that it is most complex and in fact impossible. The reason for my statement is that there is no way of restraining or coordinating the various agencies concerned in such a policy. The great mass of the people have not taken the point of view of the land economist. It is true that some farm organizations have passed resolutions condemning the further expansion of land, and many farm papers have also voiced this opinion. The Wisconsin Commissioner of Agriculture has said, "What we need is a little sound thinking and a sound policy which recognizes that we now have sufficient land under cultivation."[8] And at present the Immigration Department is not pushing agricultural immigration.

A suspension of the present program of expansion would affect not only the states and many private agencies, but also the various state immigration departments, the United States Reclamation Service, and those departments of agricultural colleges dealing with land clearing, drainage, and settlement. Like Othello, their occupation would be gone and it is quite natural that they should not favor any retrenchment in the expansion and reclamation of land. In the Federal Government, where one might expect to find the start toward a real policy, there is no unified program. While the Department

[7] L. C. Gray, et al. "The Utilization of our Lands for Crops, Pasture, and Forests." *Yearbook of the U. S. Department of Agriculture*, 1923.
[8] *Wisconsin State Journal*, Feb. 12, 1924.

of Agriculture has called attention to over-production, the Reclamation Bureau is planning further expansion of irrigation. At least seven new projects or extensions of old projects were considered "economically feasible" according to a press report of the Department of Interior dated December 10, 1924. There is a well founded feeling that this form of irrigation is subsidizing production. A Wisconsin congressman wrote:

> "Millions have been made available for irrigation and reclamation in the West, other millions for levies and drainage in the South before even a spear of wire grass or a pound of crops could be produced on land lying three thousand miles from nowhere as to market. * * * Not a cent in comparison has been made available by the U. S. Government to reclaim the cut-over lands of Northern Wisconsin, Michigan, and Minnesota. We begrudge the people of the West nothing but why this official discrimination?" [9]

This, it seems to me, points to a perilous future development. Instead of abridging the program of expansion we may expect to see the federal government called upon to enlarge its program of reclamation to include the waste lands of the Lake States and the South. In fact, this congressman is not the only one who has voiced this sentiment.

What of the states? Are they any less active since the war? Letters sent to immigration departments and the agricultural colleges last spring brought some interesting data. Six or eight states indicated that they were not interested in increasing settlement, about twenty said that they were interested, while eight or ten are actively pushing settlement at the present time. A detailed analysis of the replies received would prove highly interesting and illuminating if there were time for its presentation here. In several states there are active and aggressive private bodies. The Virginia State Chamber of Commerce has petitioned Congress to amend the immigration laws to permit selected, desirable agricultural immigrants to be admitted to people "Virginia's millions of man-hungry, unoccupied, tillable acres with desirable, permanent agricultural settlers."[10] It certainly is interesting to

[9] *Wisconsin Realtor*, Nov., 1923, p. 3.
[10] Press release, March 21, 1924, and various bulletins of the Virginia State Chamber of Commerce.

note that the Old Dominion, the oldest of the English settlements, is describing its lands as *man-hungry* and *unoccupied!*

The most hopeful sign is, I think, in the forestry movement. The high price of forest products together with the low price of agricultural products has focussed the attention upon the idle land and its use for forestry. Reforestation will require large areas of submarginal agricultural land. In selecting land for reforestation a classification will have to be made; those areas clearly suitable for forests only, or for agriculture only, can easily be designated for these uses. As reforestation progresses we therefore accomplish both classification and the removal of submarginal land from agricultural uses.

Another utilization of growing importance is recreational land. This use combines very nicely with forestry, as our experience with national forests shows. On the other hand, it competes with farming land in other places. Hunters, fishermen, and nature lovers want lakes, swamps, marshes, and a large part of the forests left in a natural state; the owners of the land, however, want it for crops, and those interested in drainage and land clearing stand with the farmer. Correspondence which the Institute of Land Economics has had with various persons acquainted with the Kankakee marsh in Indiana shows the complexity of such a problem. Some of our correspondents say that the drainage of this marsh has proved a perfect success; others say that the wild life destroyed was far more important than the crops now raised on the reclaimed land. The Horicon Marsh in Wisconsin is another such storm center; so are the Winneshiek bottoms. Here again land classification is necessary with a proper adjustment of public and private property rights.

Michigan must be given the credit for the first economic land survey or inventory in the United States. More states will use this method in the future in order to determine the proper use for each land resource which they possess.

While forests and recreational land will gradually absorb a good deal of the idle land at the margin of agricultural utilization, we are still in danger that the interests of private land companies, the competition of states, the lack of coordination in the activities of the federal and state governments, and *just plain politics* will make it impossible to secure a suitable land policy.

DISCUSSION BY B. HENDERSON

UNITED STATES DEPARTMENT OF AGRICULTURE

Dr. Wehrwein has chosen to discuss only the obstructions that work against the making of a successful land policy. I am grateful to him for taking that side. He has shown you in a telling way that the doughnut is made up entirely of hole and has left me the opportunity to show you something of the other side of the question. He was kind again when he confined his discussion to the single phase in a land policy that has to do with agricultural expansion on new land. The evils and problems connected with selling and settling vacant lands are so tremendous and far-reaching that they have a tendency to throw into the background in the mind of the investigator the important problems concerning a policy for land already in utilization. I shall follow his lead in discussing the utilization of land not now in farms.

Unfortunately every point Dr. Wehrwein made is supported by evidence, but fortunately many of his points are debatable. We *are* over-expanded agriculturally. We have produced too much. There is at the present time too much land under cultivation. There are many millions of acres of idle land on the market and it is possible that it may be put under cultivation.

The nation has always been slip-shod in making land policies. Our policies have never been adequate. Many abuses and much grief have been the result. The states and the Federal government fail to co-ordinate in applying what little gains they have made. Federal, state and private "interests" benefited by reclaiming or selling lands are opposed to any policy for the administration of agricultural lands if such a policy will curtail their activities. Congressmen and other lawmakers sympathize with these interests. The federal government seems to be getting ready to expand its reclamation operations by clearing and draining as well as by irrigation, whereas it should cut out all reclamation for the present.

States appear to be over-zealous to increase their population. Too much money is spent to get settlers. Owners of idle lands and their agents continue to sell low-grade land to unwary purchasers and it may be said that the states aid and abet them by taking care of the deluded victims after they settle on the land. The inefficient land is kept under cultivation through outside aid and competes with good land. The more the farmer produces, the poorer he gets, if he persists in producing certain things. In certain instances when the authorities have attempted to set aside for forests and recreation tracts of land not suited for agriculture, some of the competing interests have failed to agree and there has been trouble. Just plain politics have been arrayed against a wise solution of this problem. This is a symposium of discouraging conditions calculated to make pessimists of us all.

However, I think the shield has a brighter side. The problem remains

to be solved and it is a big one. But there are places here and there where points of contact can be developed and some ravelling of the tangle can be started. The question is an old one but its realization is new in this country and the difficulties and obstructions have a tendency to get us mad. It is encouraging to know that forces are at work and have worked sufficiently long and effectually to have received attention. We have enough evidence to show that the trend of public opinion is toward the recognition of the fact that we have problems in land administration and that these problems are pressing. The Department of Agriculture has been in existence for nearly fifty years. Only five years ago the Division of Land Economics was organized. The problems that have been heaped on the Division have been almost overwhelming in their magnitude and number. The Division was formed to meet a distinct and recognized need and it is hard at work. The Institute for Research in Land Economics is another instance of awakened public opinion. Hard-headed business men and students of economics give their time and money to support it because they know something should be done and have faith that the Institute can help. The United States Senate Commitee on Reforestation of 1923 showed in its findings that the general public is by no means asleep on the question of using low-grade lands for reforestation and a forestry bill asking for $40,000,000 now in Congress is the outgrowth of their findings. The reorganization of the Reclamation Service into the Bureau of Reclamation with a brand new policy for procedure indicates that public opinion has been busy in that quarter.

Three great fundamental changes have taken place that have forced upon us radical changes in our attitude toward developing new land. First, the supply of land remaining unused must be reclaimed at heavy cost. Second, the rapid development of industries with the ever-increasing demand for workers has absorbed the larger portion of our immigrants and has caused the natural increase in population to be drawn back upon itself instead of spreading into unsettled areas. Third, farming has changed from self-sufficing units into business propositions affected by all changes in economic conditions.

The combined studies of federal, state, and private institutions, backed up and supported by a growing public opinion, are surely pointing the way toward the formulation of a working policy. Many of the individual states have quit kidding themselves, have faced their difficulties, and are making some effective attempts to clean up.

During the summer and autumn of 1923 I visited 26 states and interviewed all state officials whose duties brought them in touch with lands or settlements. Data and opinions were collected first-hand on settlements, controlling the sale of real estate, handling public lands, policies for reclamation, for land utilization, immigration and development, soil surveys and land classification. I visited 10 state colleges of agriculture and a number of state universities. I visited typical colonies representing various types of colonization—a church settlement

at Tooele, Utah; a state settlement at Durham, Calif.; a state settlement of ex-service men at White Bluffs, Hanford, Wash.; Veterans' Bureau settlements at Veteransville, Minn., and at Brookings, S. D.; settlements on cut-over land under the direction of a lumber company at Alderwood Manor, near Seattle; on a cut-over tract that had to be drained near Bolton, N. C.; a settlement on cut-over land under the direction of a private colonization company cooperating with the state at Holcombe, Wisconsin; a re-settlement project under a private company at Castle Hayne, N. C.; and an intensive development on long leaf pine cut-over land in Tangipohoa Parish in Louisiana. The purpose of all this study was to find out what laws and resolutions the states had enacted, the policies in administering them, and the results of the policies and enactments. I am just now on my way back to Washington from two months in Michigan studying the Michigan Land Certification Act and the work of the Land Economic Survey.

The healthy growth of the policies for meeting the land problems throughout the states is one of the most hopeful signs of the times. This country had always had a life-long settled idea that farmers would follow loggers, that all wood land would pass eventually from forests to farms, that grassy plains would some time be turned into fields and pasture, and that sage-brush would give way to irrigated crops, but events have proved the fallacy of the conviction. In many states it is now generally admitted that there are large tracts of land within their borders not suited for agriculture. Pennsylvania, New York, Minnesota, Maine, Louisiana, Washington and Michigan have enacted legislation which enables them to continually take out of the market and add to state forests either by purchase or by tax reversion that land which seems beter adapted to trees than to crops. Pennsylvania has over a million acres, Michigan has 700,000, and New York has a large area. Michigan and Louisiana have legal authority to set aside land for game refuges, breeding grounds, and hunting preserves, and thousands of acres most valuable for these purposes are now reserved. The money obtained from hunting licenses, etc., more than pays for administration. Wisconsin, Michigan, and Minnesota have withdrawn from sale all state lands on water frontage and hold it for resort purposes. State parks varying from one acre up have been set aside in nearly every state in the union and are used principally for recreation. These are only small things but they show that a beginning has been made.

Much work has been done on land classification but it is by no means adequate. We all realize that a successful policy for land utilization must have for one of its fundamental bases some system by which the economically agricultural land may be segregated from the non-agricultural. We shall need to have in cultivation by 1950, if our population increases at the normal rate, an area exceeding the present area in cultivation by nearly 38,000,000 acres. The year 1950 is only 25 years away. Right at this time we probably have more land in use than we need, but that this is only a temporary condition, brought about by an

abnormal situation, may be clearly shown by studying the trend of the growth of population over long periods of time. When the population of a country is steadily increasing as is ours, this increase demands a steady increase in the products of the soil. The increased demand may be satisfied either by bringing new land into cultivation or by augmenting the production of land already cultivated. According to the figures just quoted, we shall need on an average to add about 1½ million acres to our cultivated area each year. However, we shall not begin the addition until the need has caught up with the supply. By all the laws of economy and common sense this yearly addition of 1½ million acres should be selected from the lands best suited to crop production and should be land that is easiest and cheapest to reclaim. Settlement should be directed toward the selected lands.

How are we to make this selection out of the 400,000,000 acres of potential crop land yet remaining in the United States? The U. S. Bureau of Soils has done something, but the work of the Bureau is not the answer. The old law creating the United States Geological Survey gave this task to the Geological Survey, but it slid from under and devoted itself to the industrial end only. It missed a great opportunity. Here again some of the states are attempting to meet the situation. State laws provide for some kind of a reconnaissance survey and classification of land in Wisconsin, Minnesota, Florida, Alabama, Mississippi, Virginia, West Virginia, Kentucky, Georgia, and Michigan. Wisconsin has published a soil classification map that can be used by the Commissioner of Immigration in locating settlers. Minnesota has the maps and reports ready, but has made no publication to date. In Virginia, West Virginia, Alabama, and Kentucky the state geologist is required by law to make explorations and examinations of the agricultural resources of the state so as to determine accurately the quality and character of its soils and their adaptation to agricultural purposes. Three of these states have annual appropriations for carrying on the work—Alabama, $12,600; Kentucky, $15,000, and Florida, $7,500. Little work has as yet been done in any of these states, but the legal authority exists and the work can be done when public opinion demands it.

In Florida, Alabama and Mississippi the State Department of Agriculture is empowered to make a soil reconnaissance survey of the state, but the work has never been done. Montana and North Dakota have legal provision for a land classification to be used as a basis for tax assessments. Five counties in North Dakota and several in Montana have already beeen covered. Colorado, Texas, Utah, and Montana have required their state land commissioners to classify all lands belonging to the state. In Colorado upwards of $25,000 was appropriated and the work has been completed.

In Nebraska the work of soil classification is under the direction of the Division of Conservation and Survey and is progressing rapidly. Wisconsin has a soils laboratory that may and does take contracts to survey and classify private holdings. Michigan has a Land Economic

Survey that is making an inventory of the resources in the idle cut-over lands and segregates agricultural land from low-grade land. The survey has already done five counties and surveyed over 1,600,000 acres at a cost of less than 5 cents per acre. A number of states and the Dominion of Canada are all interested in and are watching this Land Economic Survey.

Dr. Wehrwein has pointed out the evils that arise from the old haphazard, trial and error, stop and move on practice of settling and the feverish competition for settlers among states and private land holders. It is true that great waste and much suffering have resulted from this situation. But there are a few rays of hope in the fact that there has been public recognition of the need for control and aid in selling and settling vacant lands. State policies operating directly to settle lands according to a definite fixed plan have been embodied in State Land Settlement Boards in California, Colorado, Oregon, North and South Carolina, South Dakota, and Washington. Colorado's Board is inactive because of lack of appropriation, but it is by no means dead. California has two settlements under state control; Washington has one; South Dakota has land purchased and funds ready to begin work when settlers are available; Oregon has a working plan for experimenting that she has been operating for four years; North and South Carolina have plans and suggestions submitted to their legislative bodies.

These are only isolated spots but they are evidence that somebody has worked on ideas and plans and a few states have been willing to spend several million dollars in attempts to systematically control the use of their vacant lands. In practically every state I visited, with the exception of the South Atlantic and Gulf States, it was the expressed policy of the state officials to slacken their efforts to induce agricultural settlers to come into the state until agriculture promised more than it does at present. One state had lost during the depression over 20,000 farmers and the failure, loss and bankruptcy of these farmers had nearly bankrupted the state. The officials of that state are not anxious to face soon again the problems that accompany a great influx of settlers that have scant chance to stick. The efforts of the state were to be directed toward holding and caring for those already on the land. The state of Washington has the means to open other settlements but it is not the intention to do so until there is a demand for land. California plans to establish no more settlements at the present time. Of course all reclamation bodies are fighting for their lives. That is only natural. Many states have adopted policies to regulate and control the sale of real estate.

Nearly all of the states have laws requiring licenses to sell real estate. In Wisconsin, Oregon, New Jersey, Utah, Michigan and Illinois policies for administering the law have been inaugurated which makes it a protective measure for the purchasers. In addition to the licensing law, Michigan has a land certification act under the administration of the State Department of Agriculture. All land certified under the act is

reported by the state as being suited for some form of agriculture. Other land is not certified. The department is authorized to create a list of certified dealers and has entire control in making regulations and requirements for the land examiners. Already five large tracts have been examined and reported on and a dealer with 16,000 acres contracted with the department less than two weeks ago to have his land examined. The certification has cost about 18 cents per acre. Several states have ruled that undeveloped land sold under specified arrangements may be classed as speculative securities and control its sale under their Blue Sky laws.

State credit systems offer another means by which state officials may keep in touch with land development. Fourteen states loan money from their permanent school funds on first mortgages or agricultural real estate. With one exception, each state requires a rigid examination and appraisal before a loan is placed. Wisconsin, through her State Mortgage Association Law, keeps close tab on any settlement or colonization company that takes advantage of the law. About 700 mortgages have been filed under the law and over $1,000,000 has been loaned. Oregon, South Dakota, North Dakota and Minnesota have rural credit laws under which state funds are loaned to farmers, but only after the state is satisfied that the loan is worth while. No money is loaned on a hopeless proposition. Montana, Washington, and California have laws requiring the certification of the state for all colonization and settlement schemes. These laws need to be tightened and strengthened, but that will come in time. They are feeling their way.

These are only a few of the encouraging policies in operation in different parts of the country and they by no means control the situation. But they at least show that a beginning has been made. The awakened interest in land studies shown in many state colleges of agriculture is a fruitful source of propaganda for shaping public opinion. The Institute of Research in Land Utilization, the Division of Land Economics in the United States Department of Agriculture, and numerous other research institutions are all busy collecting data, interpreting it, and making suggestions. I am optimist enough to believe that something will come out of all this expenditure of time, money, and effort.

THE PLACE OF TAXATION IN A CONSTRUCTIVE AGRICULTURAL POLICY[1]

ERIC ENGLUND,
KANSAS STATE AGRICULTURAL COLLEGE

Taxation in a constructive agricultural policy necessarily concerns itself with the relation of taxation to present and future prosperity in agriculture. It has seemed well to confine the discussion of this subject to four general topics: (1) the increase in the fiscal requirements of states and of local governments; (2) a brief survey of the prevailing system of taxation whereby these requirements are met; (3) the probable effect of this system on prosperity in agriculture; and (4) possible improvements in the present system of state and local taxation.

I. The Increase in State and Local Taxes

Amount of Increase in Taxes.—The rise in the cost of state and local governments during the last ten or fifteen years is so familiar to all that it needs only to be mentioned here. Table I shows, by geographic divisions, the increase in all revenues of states, counties, and incorporated places of 2,500

TABLE I.—INCREASE IN REVENUE OF STATES, COUNTIES, AND INCORPORATED PLACES OF MORE THAN 2,500, BY DIVISIONS: 1912 TO 1922 (*a*)

(Totals expressed in thousands)

Division	Revenue in 1912	Revenue in 1922	Per cent of increase
United States	$1,456,986	$3,128,737	115
New England	$148,328	$334,529	126
Middle Atlantic	429,196	888,909	107
East North Central	280,467	652,705	133
West North Central	160,353	318,831	99
South Atlantic	94,581	249,749	164
East South Central	60,822	132,347	118
West South Central	76,804	172,795	125
Mountain	51,217	112,708	120
Pacific	155,218	266,164	71

[1] This paper was read at the Fifteenth Annual Meeting of the American Farm Economic Association, held in Chicago, December 31, 1924.
(*a*) Adapted from data published by the United States Bureau of the Census.

or more population from 1912 to 1922. These revenues increased 115 per cent during this period. In the meantime, general property taxes, which were 73 per cent of all revenue for these subdivisions in 1922, increased 114 per cent. In the same period, general property taxes for state governments and for all subdivisions of the states increased 160 per cent, as shown in Table II and in Figure 1.

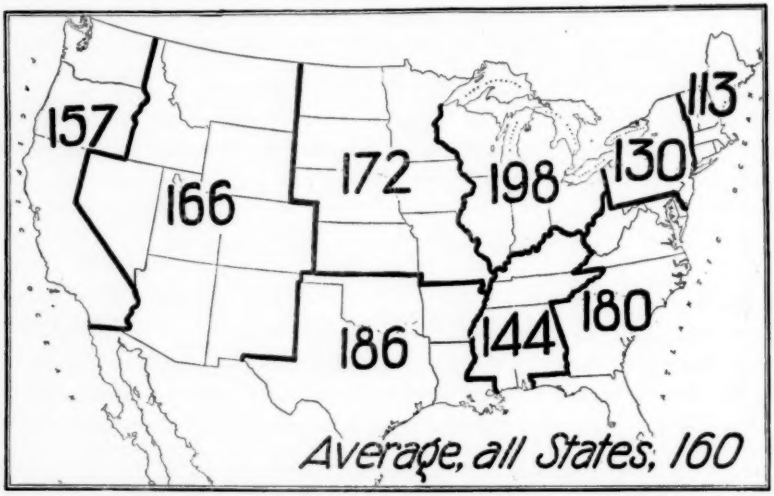

FIG. 1.—PER CENT OF INCREASE IN GENERAL PROPETRY TAXES BY GEOGRAPHIC DIVISIONS: 1912 TO 1922.

TABLE II.—TOTAL LEVIES OF GENERAL PROPERTY TAXES FOR STATE GOVERNMENTS, AND ALL SUBDIVISIONS: 1912 AND 1922

(Totals expressed in thousands)

Division	1912	1922	Per cent of increase
United States	$1,349,841	$3,502,941	160
New England	$127,232	$270,516	113
Middle Atlantic	364,266	839,211	130
East North Central	292,021	869,682	198
West North Central	180,440	490,767	172
South Atlantic	91,136	255,316	180
East South Central	51,663	125,812	144
West South Central	77,723	222,351	186
Mountain	54,327	144,466	166
Pacific	111,033	284,820	157

The National Industrial Conference Board has sought to express the increase in taxes as percentages of the national income.[2] The following figures, adapted from this source, show federal, state, and local taxes as percentages of the national income, for the years indicated:

	1903	1913	1919	1921	1922
Federal taxes	2.5	2.0	7.6	8.8	5.0
State taxes	.8	.9	.9	1.6	1.5
Local taxes	3.4	3.5	3.6	6.3	5.6
Total	6.7	6.4	12.1	16.7	12.1

Probably the most impressive of these figures are those showing the increase in federal taxes. But a large part of this increase is attributable to the World War. It is important to note that, according to the above figures, local taxes in 1922 absorbed a larger per cent of the national wealth than federal taxes. Local taxes required nearly twice as large a share of the national income in 1921 as in 1903 or in 1913. This increase in the cost of local government may indicate a more basic tendency than the increase in federal taxes since 1917. It is rather significant that local expenditures, which are made under the direct "scrutinizing observation" of the tax payer, have made such rapid advances in recent years.

Reason for the Increase in Taxes.—The fundamental reason for the increasing cost of government is the fact that people demand more and more government service. This is evident in the expenditures for public schools, public health work, roads, scientific research, and for a great many other public institutions and enterprises. Table III, which shows the expenditures for elementary schools in the United States for specified years since 1870, is indicative of the growth of public expenditures for one phase of the general welfare.

[2] National Industrial Conference Board, Research Report, No. 64, page 13.

TABLE III.——PUBLIC EXPENDITURES FOR ELEMENTARY AND SECONDARY SCHOOLS IN THE UNITED STATES. (*a*)

Year	Amount in millions	Per cent of 1910	Per pupil in average attendance: Amount	Per pupil in average attendance: Per cent of 1910	Value of school property: Amount in millions	Value of school property: Per cent of 1910
1870 ------	$63	15	$15.55	47	$130	12
1880 ------	78	18	12.71	38	210	19
1890 ------	141	33	17.23	52	343	31
1900 ------	215	51	20.21	61	550	50
1905 ------	292	69	25.40	76	733	67
1910 ------	426	100	33.23	100	1,091	100
1915 ------	605	142	40.43	122	1,567	144
1918 ------	764	179	49.12	148	1,984	182
1920 ------	1,036	243	64.16	193	2,410	221

(*a*) Adapted from the National Industrial Conference Board Report, No. 64, page 27.

Costs and Advantages not Equally Measurable.—It is relatively easy to measure the present cost of government, and to compare this cost with that of former years, but it is more difficult to measure the advantages of the services rendered by government. We are born into a society where government renders a great many services. We enjoy these benefits from childhood to old age, and we become so accustomed to them that we fall into the habit of taking them for granted. Many people, especially those who pay little or no direct taxes, are prone to forget that these advantages are bought with the taxpayer's money and that higher taxes inevitably follow expansions in the service functions of government.

II. General Property Taxation the Chief Means of Raising Revenue

The increased prominence of taxation problems in recent years, from the standpoint of agriculture, is due in part to the low purchasing power of farm products since 1920. But the principal reasons for the importance of taxation in a constructive policy lie in causes that are deeper and more fundamental than the agricultural depression. While the fiscal

requirements of states and of local governments have increased by leaps and bounds, we have generally adhered to a fiscal system which, though well suited to the simple economic conditions of frontier days, falls short of meeting present-day needs. These needs are the result of mounting taxes and of changes in our economic life from the more simple conditions of earlier periods to the complex relationships of the present time.

Extent of Reliance on Property Taxation.—General property taxation is the cornerstone of the fiscal system of every state. It is nearly the whole base of the fiscal systems of many of the states. Table IV and Figure 2 show the extent to which states and local governments relied on general property taxation in 1922.

TABLE IV.—GENERAL PROPERTY TAXES COMPARED WITH TOTAL TAXES FOR STATES AND FOR ALL SUBDIVISIONS IN 1922, BY DIVISIONS. (*a*)

(Totals expressed in thousands)

Divisions	Total taxes	General property taxes	General property taxes in per cent of total taxes
United States-----	$4,224,616	$3,327,166	79
New England-----	$365,595	$269,263	74
Middle Atlantic---	1,079,294	824,168	76
East North Central	999,861	820,348	82
West North Central	558,814	454,500	81
South Atlantic----	309,174	237,804	77
East South Central	159,139	128,307	81
West South Central	243,370	199,019	82
Mountain --------	163,522	138,747	85
Pacific ----------	345,847	255,010	74

(*a*) Adapted from data published by the United States Bureau of the Census.

Little Change in Ratio of Property Taxes to All Revenue.—The ratio of general property taxes to all revenue for states, counties, and incorporated places changed little from 1912 to 1922, as shown in Table V. This table does not show taxes levied for townships, for incorporated places of less than 2,500 population, for school districts, etc., because total revenues for minor subdivisions were not included in the

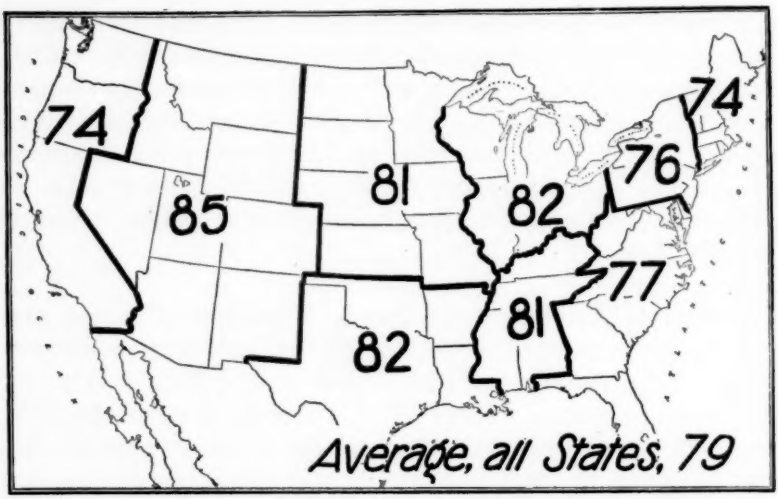

FIG. 2.—GENERAL PROPERTY TAXES AS PERCENTAGES OF TOTAL REVENUE FOR STATES AND ALL SUBDIVISIONS, BY GEOGRAPHIC DIVISIONS: 1922.

census data for 1912. Since the revenues of these subdivisions, especially of the school districts, increased rapidly from 1912 to 1922, and because they are raised almost exclusively by general property taxation,[3] it is probable that a proportionately greater share of all revenue for state and local purposes was obtained by general property taxation in 1922 than in 1912.

TABLE V.—GENERAL PROPERTY TAXES COMPARED WITH ALL TAXES FOR STATES, COUNTIES AND INCORPORATED PLACES OVER 2,500: 1912 AND 1922

(Totals expressed in thousands)

Division	1912		1922		General property taxes in per cent of total revenue	
	Total revenue	General property taxes	Total revenue	General property taxes	1912	1922
United States	$1,456,986	$1,077,446	$3,128,737	$2,290,184	74	73
New England	$148,328	$104,727	$334,529	$241,889	71	72
Middle Atlantic	429,196	311,153	888,909	640,133	72	72
East North Central	280,467	209,519	652,705	485,037	75	74
West North Central	160,353	119,203	318,831	229,893	74	72
South Atlantic	94,581	73,307	249,749	183,372	78	73
East South Central	60,822	46,321	132,347	104,824	76	79
West South Central	76,804	62,883	172,795	135,399	82	78
Mountain	51,217	41,778	112,708	91,074	82	81
Pacific	155,218	108,555	266,164	178,563	70	67

[3] Total taxes for incorporated places less than 2,500, for school districts, for townships, and for all other minor subdivisions was $1,079,711,000 in 1922. Of this amount, general property taxes were $1,022,537,000, or 94.7 per cent.

Tax Burden Falls on Tangible Property.—While general property taxation renders lip service to the principle of uniformity and equality, in actual performance it is destructive of that principle, especially where it is almost the only means of raising revenue. This is particularly true in states which attempt to apply the same rates of assessment and taxation to both tangible and intangible property. Since the general property tax has failed to reach intangibles, and because it makes no attempt to tax unfunded incomes, the mounting cost of state and local government must necessarily fall with increasing and disproportionate severity on tangible property, especially on real estate. Because of its visibility, real estate cannot be hidden from the tax assessor, and because of its immobility it cannot be removed to localities having more favorable tax laws.

It can scarcely be said that the general property tax is "general" in its application to any class of people except the farmers, who have little chance of escaping this tax because their investments consist largely of land, machinery, livestock, and other tangible things.[4]

Farmers Pay Larger Share of Income in Taxes.—According to the National Industrial Conference Board, already quoted, farmers pay a larger per cent of their income in taxes than is paid by other people. According to this source, the following is the ratio of all taxes to respective shares in the national income for the years indicated:[5]

	1913	1919	1921	1922
Farmers	10.6%	8.3%	17.2%	16.6%
Remainder of community	4.1%	13.2%	15.7%	11.9%

The reason why the general property tax falls more heavily on farmers than on other classes of people is stated by Professor Seligman in the following words:

"The assertion is frequently made that the American farmers are taxed out of all proportion to their ability to pay. This is due chiefly

[4] The average value of all farm property in the United States for the census year 1920, was distributed as follows: Land and buildings, 85.1 per cent; implements and machinery, 4.6 per cent; livestock, 10.3 per cent.

[5] National Industrial Conference Board, Research Report No. 64, page 32.

to the fact that they have to assume to a large extent the burdens of other taxpayers. Outside of the rural districts the great mass of personal property consists of intangible personalty, which, as a rule, escapes taxation almost completely. In the rural districts, on the other hand, the great mass of personalty consists of visible tangible property used by the agricultural communities. The country landowner, who is generally assessed also on his visible personalty, must thus pay, over and above his just proportion of the public dues, an additional share which ought to have been assumed by the owners of intangible personalty. What is a real property tax in the rest of the state becomes a general property tax for the farmers'"[6].

III. Probable Effect of Present System of Taxation on Agriculture

The rising cost of state and local government, together with the extent of our reliance on general property taxation, is absorbing an increasing portion of the rental value of land. In so far as the writer has been able to ascertain, no impartial investigation anywhere in the United States has revealed an exception to this tendency. General data pertaining to the taxation of farm land in the United States as a whole will be cited first, followed by a presentation of some of the results of our investigations in Kansas.

Increase in Taxes on Farm Land, by Geographic Divisions.—The United States Department of Agriculture has assembled data on taxes per acre of farm land in all states and on the relation of the land tax to income from land in several typical areas. One significant table appears in *Weather, Crops, and Markets* of March 17, 1923, page 251. This table gives taxes per acre of farm land in each state for 1913 to 1914 and for 1921 to 1922. In this period, these taxes increased 126 per cent in the United States as a whole. For the purpose of this paper, the data given by states in that table have been weighted by the number of acres in farms in each state, and summarized to show the approximate per cent of increase in taxes per acre of farm land by geographic divisions. The results are shown in Table VI and Figure 3.

[6] Seligman, E. R. A., *Incidence of Taxation*, fourth edition (1921), page 255.

TABLE VI.—APPROXIMATE TAXES PER ACRE OF FARM LAND, 1913-14 TO 1921-22, BY DIVISIONS. (*a*)

Division	Tax per acre 1913-14	Tax per acre 1921-22	Per cent of increase
United States (*b*)	$0.314	$0.709	126
New England	.41	.76	85
Middle Atlantic	.61	1.18	93
East North Central	.65	1.44	122
West North Central	.32	.77	141
South Atlantic	.19	.42	121
East South Central	.21	.50	138
West South Central	.16	.42	163
Mountain	.20	.43	115
Pacific	.37	.76	105

(*a*) Adapted from data by the United States Department of Agriculture, *Weather, Crops, and Markets*, March 17, 1923, page 251. In constructing this table, taxes per acre in each state were weighted by the number of acres in farms at the nearest census period.

(*b*) Average as given in *Weather, Crops and Markets*.—Average weighted by the number of acres in farms: Tax per acre in 1913-14, $0.319; in 1921-22, $0.706; per cent of increase, 121.

Ratio of Taxes to Net Rent of Land.—Data from three counties in Indiana for 1919 to 1923, published by the Bureau of Agricultural Economics, United States Department of Agriculture, in a press release of March 25, 1924, and included in Table VII, show the per cent of net rent of land

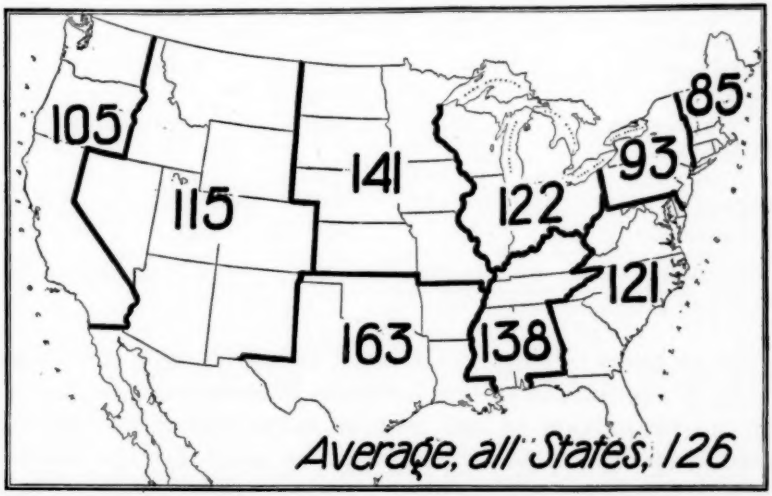

FIG. 3.—APPROXIMATE PER CENT OF INCREASE IN TAXES PER ACRE OF FARM LAND, BY GEOGRAPHIC DIVISIONS: 1913-14 TO 1921-22.

TABLE VII.—GENERAL PROPERTY TAX AND NET RENT ON SELECTED INDIANA FARMS. (*a*)

Year	Number of farms	Number of acres	Net rent per acre before deducting taxes	Tax per acre	Per cent of net rent paid in taxes (before deducting taxes)
5-Year Average	---	------	$4.91	$1.31	32.9
1919 ----------	62	10,508	7.49	.90	12.4
1920 ----------	79	12,863	5.11	1.11	23.9
1921 ----------	90	14,970	3.98	1.54	41.5
1922 ----------	100	16,680	3.71	1.60	47.1
1923 ----------	105	17,120	4.25	1.41	39.6

(*a*) Press release, United States Department of Agriculture, Bureau of Agricultural Economics, March 25, 1924. (Data from three counties: Tipton, Miami, and Monroe.)

TABLE VIII.—PROPERTY TAXES IN PER CENT OF NET RENT BEFORE DEDUCTING TAXES. (*a*)

State and County	No. farms studied	Net rent per acre before deducting taxes (b)	Property taxes per acre	Property taxes in per cent of net rent before deducting taxes
Michigan				
Lenawee Co. --	111	$4.40	$1.67	38
Wisconsin				
Dane Co.------	106	3.98	1.18	30
Minnesota				
McLeod Co.----	87	3.49	.85	24
New York				
Delaware Co.---	137	1.23	.38	31
Pennsylvania				
Chester Co.----	177	1.83	1.20	66
Indiana				
Tipton Co.-----	77	9.38	1.41	15

(*a*) Data from field investigations of the United States Department of Agriculture, Bureau of Agricultural Economics.
(*b*) Tax levies as of 1919.

paid in taxes. Table VIII, also based on field investigations of the Bureau of Agricultural Economics, is indicative of the proportion of net rent of farms taken by taxes in certain states, in 1919. These tables speak for themselves. In the localities represented by these data, from a third to nearly one-half of the rent of land was taken in taxes

in the years covered by these studies. Isolated instances could, no doubt, be found where taxes take an even greater share of the land income.

Taxes and Selling Value per Acre of Land in Kansas.—A comparison of *ad valorem* taxes to selling value per acre of farm land in Kansas, by years from 1910 to 1923, shows that taxes have increased more rapidly than selling value in all parts of the state. The discrepancy between the rate of increase in taxes and the rate of increase in selling value was particularly pronounced during the latter part of this period.[7] Table IX shows the average selling value per acre of land within each section of Kansas and in the state as a whole, by years from 1910 to 1923, and Table X gives taxes per acre for the same period, by years. (See also Figure 4.)

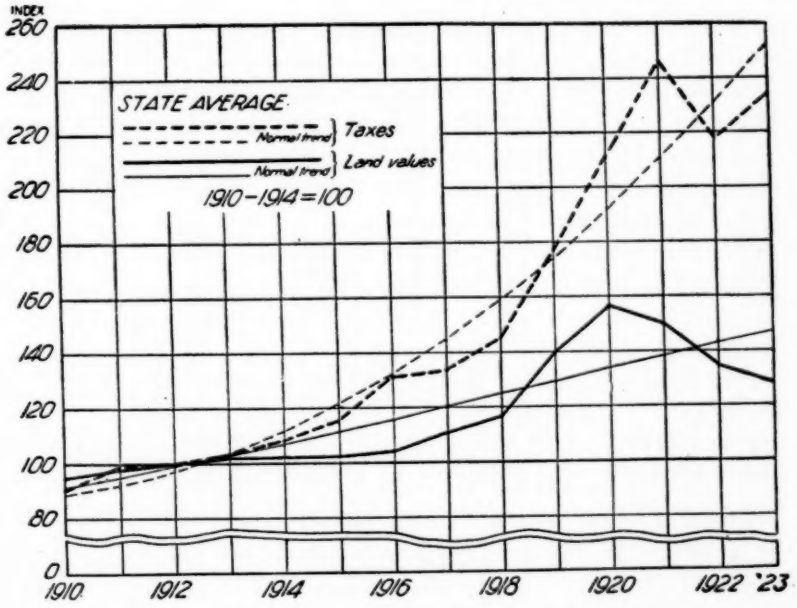

FIG. 4—TAXES PER ACRE OF ALL LAND AND IMPROVEMENTS IN KANSAS, COMPARED TO SELLING VALUE PER ACRE: 1910 TO 1923.

[7] These data pertaining to Kansas are presented not only because the writer has at hand more facts bearing on conditions in that state than in other states, but also because they are probably typical of conditions in other parts of the Middle West.

TABLE IX.—SELLING VALUE OF LAND PER ACRE IN KANSAS, BY SECTIONS: 1910 TO 1923

Year	State average	Corn belt	General farming	Flint hills	East half of wheat belt	West half of wheat belt	Grazing region
1910	$36.79	$63.41	$46.86	$35.33	$44.36	$17.60	$9.32
1911	38.31	66.39	48.28	37.59	46.66	17.88	9.77
1912	38.94	68.88	51.94	37.31	47.32	16.99	9.31
1913	39.51	71.11	50.24	39.04	49.07	16.25	9.60
1914	39.54	71.97	51.25	43.27	47.47	15.81	9.49
1915	39.55	71.10	52.65	37.45	49.19	15.92	10.03
1916	40.09	70.98	52.16	39.44	48.97	17.78	10.97
1917	43.00	75.24	55.14	43.05	52.02	20.08	12.66
1918	45.25	79.68	56.65	47.18	55.46	20.37	12.49
1919	54.19	87.44	69.64	55.17	69.73	25.20	14.70
1920	60.46	103.64	81.24	63.65	71.44	29.07	18.13
1921	57.83	99.45	78.49	62.70	67.35	28.14	16.88
1922	52.07	89.72	69.08	53.30	61.51	25.41	16.96
1923	49.62	84.62	65.60	51.16	58.37	25.79	15.49

TABLE X—TAXES PER ACRE OF ALL TAXABLE LAND OUTSIDE OF CITIES IN KANSAS, BY SECTIONS: 1910 TO 1923

(Cents)

Year	State average	Corn belt	General farming	Flint hills	East half of wheat belt	West half of wheat belt	Grazing region
1910	19.4	34.1	29.9	18.9	20.5	8.7	6.5
1911	21.3	37.9	30.5	21.8	23.2	9.9	7.2
1912	21.5	38.7	31.2	22.4	23.4	9.7	6.4
1913	22.1	41.1	33.4	23.2	23.4	9.4	6.4
1914	23.2	43.3	34.0	24.6	25.2	10.1	6.3
1915	24.8	46.1	36.8	26.1	27.1	10.3	7.0
1916	28.1	51.1	39.0	29.1	31.7	13.2	8.2
1917	28.5	52.8	40.6	28.4	31.6	12.9	8.6
1918	31.1	64.7	41.9	29.1	32.5	14.7	9.9
1919	38.1	68.9	53.0	37.4	42.3	19.6	12.1
1920	45.4	83.6	62.2	44.4	50.9	22.4	14.5
1921	52.8	97.0	78.2	50.9	57.4	25.4	17.7
1922	46.9	84.0	70.1	44.8	49.4	24.8	17.5
1923	50.3	89.0	74.8	49.4	52.2	28.1	18.7

One effect of high taxes on farm real estate in Kansas together with low purchasing power of farm products, is indicated by the following data on the increase in delinquent taxes on farm real estate in 27 counties from 1917 to 1922.[8]

Year	Amount reported	Per cent of 1917
1917	$68,008	100
1918	91,770	135
1919	116,921	172
1920	156,574	230
1921	262,322	385
1922	308,708	454

[8] These data were obtained from the county treasurers, by questionnaire.

Probable Consequences of Increasing Land Taxes.—The above data from Kansas and from various other states, indicate that taxes are gradually absorbing the annual value of farm land, which means that farmers are by degrees being deprived of their property. The danger of this gradual absorption of land values by taxes is stated by Professor Ely in the following words: "Taxes on farm lands are steadily and rapidly approximating the annual value of farm lands; and in a period varying from state to state, but in most of the states in a relatively short period—a period so short that some of us may live to see it, if the movement continues unchecked—the taxes will absorb farm land values, the farmers' land will be confiscated by the state and our farmers will become virtual tenants of the state."[9] Such an outcome of the present system of taxation would mean, among other things, a lower standard of living in rural communities, and a removal of that incentive to effort in production, and to higher standards of citizenship which go with a wide diffusion of land ownership among farmers.

Although a continuation in the present trends of taxes and of land values inevitably would result in confiscation of land income, the present system of taxation cannot properly be condemned merely because taxes have increased more rapidly than the value of land. A somewhat greater rate of increase in taxes than in selling value during the last fifteen years was both inevitable and proper because of the expanding service functions of government with the resulting socialization of an increasing share of the income of the people. The pertinent question is, has the increase in the tax burden on the land owner been excessively great in recent years, as compared with the increase in the burden on the taxable capacity of other people? Sufficient research has not been made to afford a specific answer to this question. Nevertheless, data already assembled reveal such a rapid rate of increase in taxes on farm real estate as to warrant genuine concern and earnest effort at improvement in state and local taxation.

[9] Address on "Taxation of Farm Lands" before the Tri-State Development Congress, Duluth, Minn., January 24, 1924.

IV. Possible Improvements in State and Local Taxation

Thus far this paper has been devoted mainly to the thesis that rapidly increasing cost of state and local government together with an extensive reliance on property taxation has created a situation in which taxes are gradually overtaking the annual value of land. When speaking of the tax burden on real estate and on other things, it should be borne in mind that, in the last analysis, taxes are paid by persons and not by things. Since investments of farmers consist largely of land and other tangible objects, and since the value of farm real estate is more than three-fourths of the value of all farm property [10], it follows that the taxes on farms are paid by the farm population. This tax is not shifted to other people to any appreciable extent, since the land tax tends to increase rather than to diminish the amount of land in use.

No Substantial Relief Through Curtailment of Appropriations.—When considering the problem of high taxes on farm real estate, demands for reduction in state and local expenditures are generally rewarded with popular approval. No one would say that the taxpayer should not demand economy in the use of public funds. At the same time, experience shows the futility of assuming that the real estate owner's tax problem can be solved merely by cutting down appropriations.

Probably none of us can recall the time when taxpayers did not think that state and local taxes were too high, or when candidates for office did not promise tax reduction. But taxes everywhere have continued to rise. In many instances, those who promise tax reduction do so with sincerity, believing that they will be able to fulfill their promises and bring relief to the taxpayer. But they find upon assuming the duties of office that they move largely in lock-step with economic and political forces which they are unable to modify to any appreciable extent. The real reason for the disparity between promise and practice in tax reduction is that people are inclined to ask for more rather than for less government service.

[10] Land and building 85.1 per cent of all farm property in 1920.

Need for Tax Revision a Result of Economic Development.—A constructive agricultural policy should recognize that the present situation with respect to taxation can be met only through fundamental tax revision. The aim of such revision should be to secure a wider distribution of the tax burden. The basis for this statement is found in certain economic developments which the writer believes to be fundamental to a tax program as part of a constructive policy. For the purpose of this discussion, these economic developments have been divided into four parts.

1. *Increase in Unfunded Income.* This income represents a taxable capacity not reached directly, and perhaps only to a limited degree indirectly, by general property taxation. Salaries and wages are important parts of unfunded income which in the majority of the states are not subject to direct taxation for state and local purposes. The increase in the number of salaried people and wage earners is a normal result of the economic evolution of the states.

2. *Increase in Intangible Property.* The greater part of this type of property escapes taxation. The increase in intangibles, like the increase in the number of salaried people and wage earners, is a result of economic evolution.

3. *Expansion in the Service Functions of Government,* with an ever widening diffusion of benefits among the people.

4. *A General Increase in Wealth and Income* and consequently in the taxable capacity of the people as a whole. The benefits provided by government have increased the earning power of the masses and have raised their standard of comfort.

Increase in Taxable Capacity.—It surely cannot be denied that the standard of living of the masses has advanced greatly in recent years as a result of an increase in wealth and income. This has created an opportunity to extend the tax base. But we have been reluctant to take advantage of this opportunity and have adhered to property taxation as the principal means of raising revenue, with the result that real estate, which is least able to escape, must bear the mounting cost of government.

In his book on *Wealth and Taxable Capacity,* Sir Josiah

Stamp states that the rate of increase in the taxable capacity of a people is greater than the rate of increase in wealth,[11] and that the psychological limit of taxable capacity varies according to the uses made of the revenue. It is quite logical that the psychological limit should allow a greater taxable capacity when the revenue is used for the service functions of government than when it is applied to more remote purposes, for example to the payment of external indebtedness.

Our increasing state and local revenues are used largely to provide services which contribute to the wealth-producing power of the people and to their general comfort. Therefore, our problem—and our opportunity—is to find equitable ways of bringing into the public treasury a portion of the surplus wealth of the masses, whose taxable capacity has been augmented by the service function of government.[12]

Possible Supplements to Property Taxation.—While it can be said without fear of effective contradiction that too much reliance is placed on the general property tax, property taxation is nevertheless a proper part of the fiscal systems of the states. Hence, possible means for a wider distribution of the tax burden that will be suggested in the remainder of this paper are not intended to replace property taxation but merely to supplement it.

1. *State Income Tax.*—Income taxation, already tried and found successful in several states, is one logical means of reducing the burden borne by property. Farmers, of all classes of people, would favor the income tax if they understood adequately its true place in a state's fiscal system. This tax is elastic from the standpoint of the taxpayer, for the amount varies automatically from year to year with the amount of taxable income. It is not so with the general property tax. Up to the point of confiscation of the property itself, our *ad*

[11] *Wealth and Taxable Capacity* (1922), page 118.

[12] "The things of general interest which we are doing, and are being urged to do, are very generally things which are remunerative to a great many of the people; things that bring great return to the individual and to society. But we have not evolved methods for getting into the public treasury a sufficient portion of the private and social gains that result from doing these various things. Let us take health and education as an illustration. Let us say a man's earning power is increased $500 a year by the public education which he receives, beginning with the grade schools and going up through the state university. This increase in earning power of $500 a year may continue for thirty years. We have, however, no special agency for getting hold of any considerable portion of this increment of gain to the individual."—Ely, R. T., "The Taxation of Land," Proceedings of the Fourteenth Conference of the National Tax Association, page 228.

valorem taxes are quite elastic from the standpoint of the revenue requirements of the states, but the property owner finds it inelastic with respect to his income. This fact has been forcefully impressed on the farmer in the last few years. Many farmers would pay taxes both on income and on property in years when returns are sufficient to make them subject to the income tax. But in years of crop failure or of low farm prices and high costs, they would be exempted automatically, wholly or in part, from the usual income tax. At the same time the tax on land and on other farm property would be lighter because those who have not suffered adversity and those who receive income from sources other than taxable property would bear a part of the cost of government.

While income taxation is a proper part of the fiscal system of the states, too much reliance could readily be placed on this means of raising revenue, in view of the present federal income tax. The same note of caution applies to business taxes for state purposes.

2. *A Business Tax,* based on the net income derived from business. Time does not permit more than a mention of this form of taxation. An adequate discussion of it is found in the preliminary report of the committee of the National Tax Association on "A Model System of State and Local Taxation."

3. *Further Development of Taxation of Oil and Mineral Products.*—Several states derive a portion of their revenue from a severance tax on oil and mineral products. This is a legitimate source of revenue to supplement property taxation, and it might be well for other states to study the possibility of securing a part of their revenue from this source.

As a form of wealth, mineral deposits and oil differ widely from farm land. With the aid of a sound agricultural policy, including good farm organization and management, farm land not only remains productive, but its productivity can be increased by crop rotation and proper balance of cash crops and livestock, so that it will continue to yield wealth for future generations, indefinitely.

Both mineral deposits and agricultural land are a gift of nature, but mineral deposits are different in that they disappear through use and cannot be made to yield continuously.

Use means exhaustion, as mineral deposits removed from the soil can never be replaced. This gives to these natural resources a distinct public interest. A proper function of government with respect to them is to prevent wasteful exploitation, by means of conservation policies, and to appropriate a portion of this wealth for public use by a suitable system of taxation.

4. *Taxation of Non-essentials.*—While much is being said about excessive taxes levied on productive enterprises, and on the necessaries of life, it might be well to consider the possibility of reducing these levies by obtaining a part of the public revenue with a tax on non-essentials and unnecessary spending. It is a well-known fact that vast sums are spent for non-essentials or luxuries.[13] This indicates the

Year	Amount	
1918	$263,573,390	(8 months)
1919	509,196,080	
1920	767,205,550	
1921	897,308,330	
1922	733,849,560	

From the annual report of the Treasurer of the United States, 1922, page 503.

existence of a surplus wealth, a portion of which might well go to the support of the expanding service functions of government.[14]

Although the merits of a general sales tax are dubious, it would be well to give careful consideration to possibilities of obtaining substantial revenues by means of classified sales taxes. For administrative reasons, it would be advantageous to limit these indirect taxes to well-standardized non-essentials of wide use. To do otherwise would be to annoy and to confuse the public with a series of "nuisance taxes."[15]

[13] The following figures give the amounts spent for amusements in the United States, by years from 1918 to 1922, exclusive of educational and philanthropic exhibitions which were exempt from taxation.

[14] During the fiscal year ending June 30, 1923, about $7,458,000 was spent in Kansas for taxable (federal) admission fees to theaters, and for club dues. About $32,000,000 is spent annually for tobacco in the state, according to estimates. This is a total of $39,458,000 or more than the annual cost of all publicly supported education in the state.

[15] It might be said that indirect taxes on non-essentials of wide use would fall, in a large measure, on the essentials of life, since people would so balance their consumption that less income would be available for the necessaries. While there is a fractional truth in this allegation, it does not follow that wealth available for the purchase of necessaries would be reduced to any appreciable extent by the tax on non-essentials, because of the greater elasticity of demand for the latter.

Indirect taxes here suggested are not without precedent. Among the experiments in this type of taxation we find the mill tax on cigarettes in Iowa, which brought a revenue of about $750,000 in 1923; the Connecticut admission tax; the cigarette license tax in Arkansas; and the South Carolina stamp tax on certain non-essentials. Although these taxes probably are in the experimental stage, they nevertheless suggest important possibilities of supplementing the general property tax.[16]

In suggesting possible sources of state and local revenue to supplement property taxation, the writer is not unmindful of the need for thorough and impartial research as a basis of fundamental tax revision. It might prove costly to experiment with sweeping changes in a state's revenue system unless those changes are based on facts correctly interpreted.

It is not enough merely to show that taxes on farm real estate are dangerously oppressive and that they tend rapidly to become confiscatory. Our research must be extended beyond disclosures of the need for tax revision, and into the possibilities of finding appropriate remedies. It does not take us very far toward a solution of our problem to suggest a new basis for taxing farm land. It would no doubt be helpful in many ways to make rental value, instead of selling value, the basis of land taxation; but so long as new means of raising revenue are not found the cost of state and local government will fall largely on real estate, whether it is taxed on the basis of selling value or on net rent.

Fundamental tax revision cannot properly be viewed merely from the standpoint of agriculture, because it concerns all economic interests. Therefore, it should be the

[16] The gasoline tax for roads is one form of indirect taxation that has made gratifying progress in recent years. It is an important factor in securing better roads without placing so large a burden on the land adjacent to the roads.

[16a] Possibilities of securing a part of our state and local revenue by a consumption tax on non-essentials, were considered by the committee of the National Tax Association on "A Model System of State and Local Taxation." This committee says in its preliminary report:

"It may well be, however, that at some future time the National Tax Association will do well to appoint a committee to canvass carefully the possibility of supplementing existing sources of state and local revenue by taxes levied upon what may be fairly classified as luxurious consumption." Proceeding of the Twelfth Conference of the National Tax Association (1919), page 467.

immediate aim of a constructive agricultural policy to enlist the active interest of organized agriculture, of organized business, and of organized labor in behalf of research which would bring to bear the experience of the more-advanced states and of foreign countries on our problems of state and local taxation. There is a place in such a program for both private and public research agencies, as Professor Ely has often emphasized and as is being demonstrated by the Institute for Research in Land Economics and Public Utilities. It is as much a function of our experiment stations, where agriculture logically looks for guidance, to study taxation in its relation to agriculture as to study problems of production, marketing, and rural life. Taxation, like other economic problems in a dynamic society, cannot be solved once for all, and therefore we need continuity of effort through permanent institutions.

Tax revision means not only research but also enactment of laws; and, since our laws are based on the will of the people, the moulding of public opinion is essential to fundamental tax revision. This requires presentation of facts in a palatable form. The public wants the truth, with increasing earnestness and with a growing appreciation of judicious fearlessness on the part of those who have facts to present. Our agricultural colleges are sources of public information; and it is as much within their legitimate sphere to disseminate sound information on taxation, through residence and extension instruction and through educational publicity, as to give information on other matters pertaining to agriculture.

Facts now available support strongly the contention that taxation is one phase of the interrelation of economic groups in which the "agricultural class" has been in recent years, and still is, at a disadvantage. This field presents opportunities for a good deal of adjustment by direct legislation. But adjustment in taxation, as a part of a constructive agricultural policy, is concerned not only with problems immediately before us, but also with the future for which a program must be developed, with scientific research and informed public opinion as requisites of constructive legislation.

LIVESTOCK PRODUCTS AND THE TARIFF[1]

EDWARD N. WENTWORTH
ARMOUR'S LIVESTOCK BUREAU, CHICAGO

Theories of tariff are various. The commonest types are those that operate as embargoes, tariffs for revenue only, protective tariffs, and tariffs for internal economic adjustment between industries or classes. Nearly all tariffs are sufficiently complicated to prevent their classification under any single one of the preceding headings, since all the principles are usually combined in any legislative enactment. The simplest concept involved is the embargo, which completely prohibits commerce in specified commodities, although in its economic results internal complications from a national standpoint often develop. On the other hand, the most näive purpose is that of producing revenue only, ideal perhaps in theory, but humanly impossible of administrative application without producing other economic effects in as complicated a political structure as we possess. The guiding idea in the protective tariff is the erection of a barrier that will offset advantages in production costs enjoyed by countries seeking sale for their product in the American market. And the new idea advanced by the political agitators of the past year is that tariffs shall be imposed that will restore the purchasing power of certain classes of industry and commerce, thereby acting as a substitute for the historic reduction of production and the balancing of output with other industries.

No one seriously considers either of the first two types of tariff, despite the announced platform of one of our big political parties favoring tariff for revenue only. The protective tariff, however, is a practical problem that we face, and a discussion of its relation to agriculture provides the theme for the present paper. Obviously, a tariff can be effective in protecting American producers only when these producers have a smaller output than their domestic market requires. In the past, this has rarely been considered and

[1] This paper was read at the Fifteenth Annual Meeting of the American Farm Economic Association, held in Chicago, December 30, 1924.

many tolls have been imposed through political motives when low, and hides. The Underwood Act of 1913 placed all livestock and livestock products on the free list. Since it occurred the economics of the situation indicated that they could not be effective. Such an impost has been levied on numerous products which are regularly surplus, and which are important factors in the export rather than in the import trade. As a result, it has often happened, in agriculture at least, that tariff regulations have had the opposite economic and political effect from that intended by their framers. In livestock products, the effects of a tariff should be noticeable in three fields—the volume of production, the volume of commerce, and the price level. None of these criteria is exact, since favorable or unfavorable factors in one of the three may produce conditions in either of the others in directions contradictory to, or in exaggeration of, the effects expected from a tariff. Furthermore, the economic and political conditions that result in tariff changes usually come to a head at times when the general trend of the livestock or business cycle would normally change in the other direction. This makes it easy for superficial tariff supporters to point with pride to the result of their legislation, and for superficial tariff opponents to maintain their ground. Numerous examples of this type both with regard to increases and decreases in the tariff and supposed beneficial effects may be found in the data to be presented.

I

Although wool and fats had figured in the tariff acts of 1867, 1872, and 1875, the first tariff broadly to affect livestock and livestock products was that of 1883, the Morrison Act, protective in its intent. Since its passage, seven tariffs have been enacted. The McKinley Act of 1890 in general increased the rates on livestock products; the Wilson Act of 1894 decreased them slightly; while the Dingley Act of 1897 again increased them. Despite the fact that the latter was a hastily prepared measure, it continued in effect for twelve years. The Payne-Aldrich Act of 1909 maintained most of the provisions of the Dingley tariff with respect to live animals, but it de-

creased the protection on fresh meats, hams, bacon, lard, tal- just ahead of the outbreak of the World War, its effect on the livestock industry in the face of growing export demand was not clearly depicted.

The Emergency Act of 1921 laid a flat ad valorem rate of 25 per cent of the value on all meats, a 30 per cent tariff on

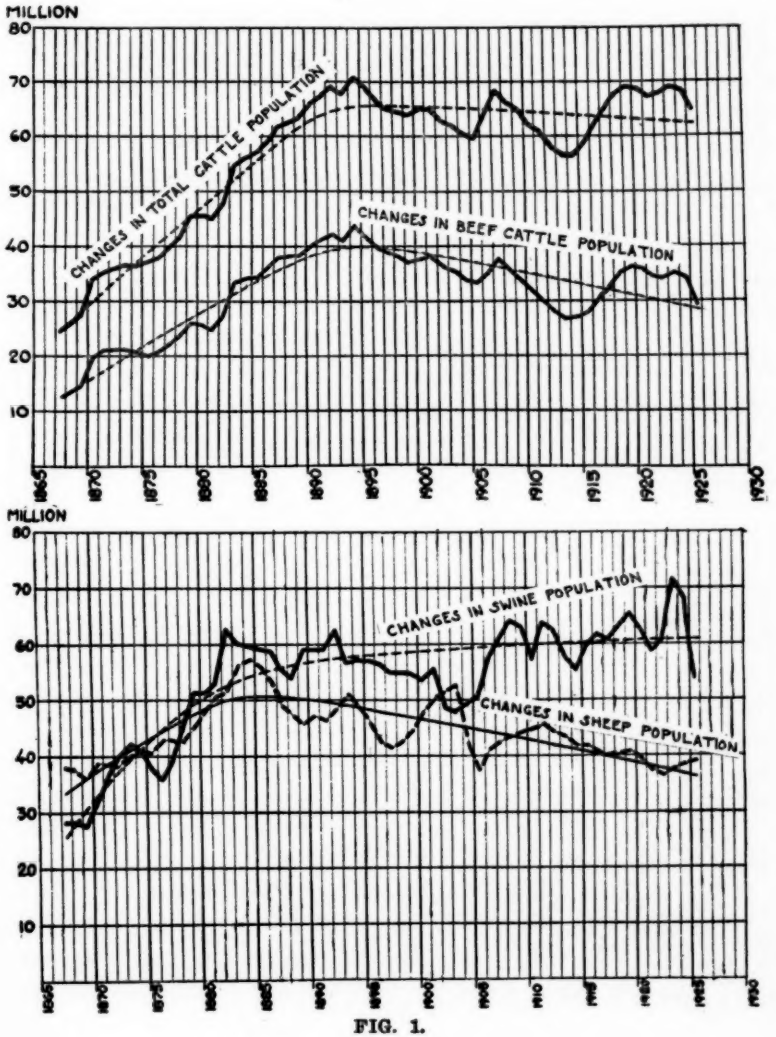

FIG. 1.

cattle, a $2 per head impost on yearling sheep or older, and a $1 per head impost on lambs. Tallows, greases, and hides were unaffected, nor were they given protection under the present Fordney-McCumber tariff of 1922. The principal change that this permanent tariff showed in comparison with the Emergency Act, was that hams, bacon, shoulders, and other prepared or preserved pork were given a flat tariff of 2 cents per pound as opposed to the 25 per cent ad valorem. Lard was given a 1-cent protection, and lard compounds and substitutes a 4-cent protection. Fresh, prepared, or preserved meats not specifically provided for were reduced to a rate at 20 per cent of their valuation, while live animals were given the following protection: Swine, ½ cent per pound; sheep and goats, $2 per head; cattle under 1050 pounds, 1½ cents per pound; and cattle over 1050 pounds, 2 cents per pound. Tallow was also awarded a margin of ½ cent per pound, and oleo oil and oleo stearine 1 cent per pound. Dairy products were given protection at corresponding rates.

The general effect of these changes was to create sensitive points in the curves for volume of production, for exports and imports, and for prices, in the years immediately following the respective tariff acts. Figure 1 shows the trends of production in total cattle, beef cattle, sheep, and swine production since 1867. The general trend of all these curves is upward from 1867 to the mid 80's or 90's, with rather sharp declines in beef cattle and sheep from the high point. Any attempt to read the effect of the tariff directly from these curves would be misleading, because the general trend is not eliminated, hence these trends for each of the four curves have been determined and deviations above and below the trend have been plotted in Figures 2 to 5. Parabolic and logarithmic curves did not fit the original data, so the trends presented represent the average of two curves fitted by eye by two different individuals.

When studied in this manner, there seems to be little relation between the livestock population and tariff changes. The Morrison Act of 1883, for example, caught the cattle industry in its upward swing from 1881 (Figure 2), and the increases

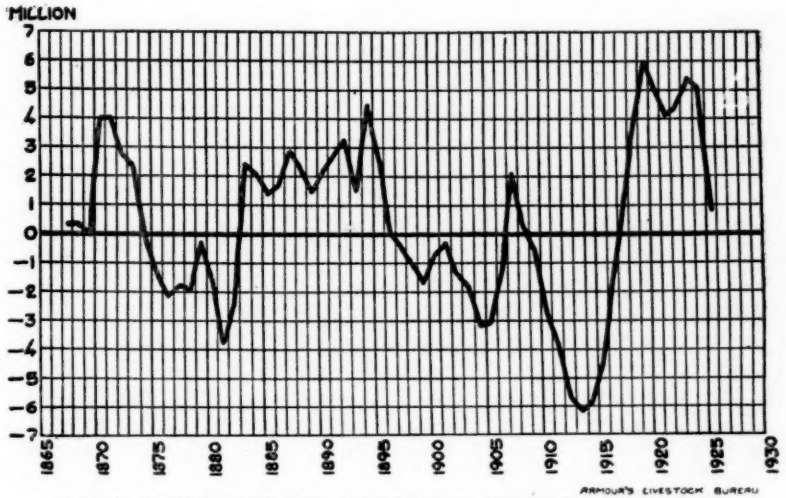

FIG. 2—DEVIATIONS FROM TREND IN CATTLE POPULATION.

ran above the general trend until 1896. The Wilson Act of 1894 had no immediate result in reducing cattle population, although in 1896, the rate of increase fell below the general trend. Furthermore, the Dingley Act of 1897, seemed unable to change the general downward course, and recovery did not begin until 1905. The deviations passed above the general trend in 1906. The Payne-Aldrich tariff of 1909 decreased the protection on cattle products at a time when the deviations from the general trend were again definitely downward. Recovery was not effected until 1913, when the Underwood tariff removed all protection. From the standpoint of the protectionist, the war conditions enabled the industry to withstand the Underwood blow, and cattle population increased. The Armistice changed international conditions materially, so that the Emergency tariff of 1921 quite possibly delayed the downward direction of the deviations from the general trend. Furthermore, the Fordney-McCumber Act of 1922 helped to continue this upward swing for another year. The general economic conditions causing the downward swing were too strong, however, and from 1923 onward the trend has been contrary to the effect expected from the tariff.

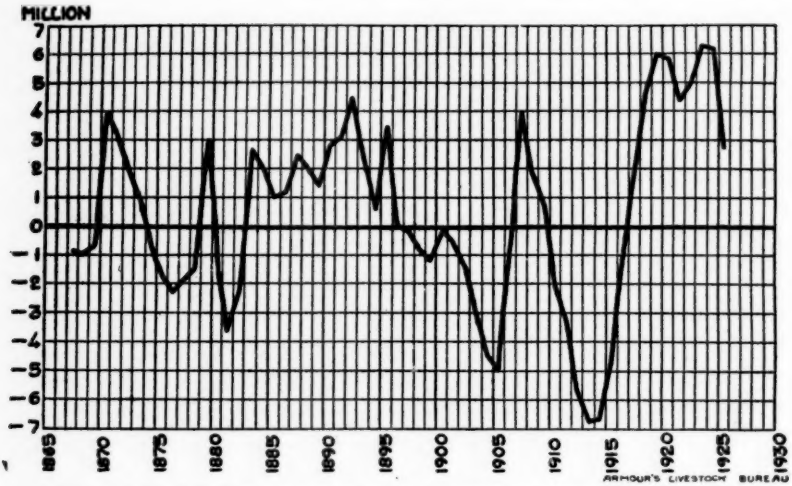

FIG. 3—DEVIATIONS FROM TREND IN BEEF CATTLE POPULATION.

Figure 3, dealing with beef cattle only, shows almost exactly the same general situation as exists for all cattle, with the slight difference that the removal of dairy cattle places the general course of the deviations on a slightly lower plane with reference to the general trend. It was not to be expected that a protective tariff could have much influence previous to 1914, for we were still in an export stage, nor could it be expected that the lack of protection from the Underwood tariff of 1913 could further reduce cattle population in the face of growing war demands. The conclusion one draws from the past history of cattle tariffs is that its effects have been so incidental that they are not readily discernible.

In swine (Figure 4), the effects of the tariff are even less discernible, since swine and pork products are still definitely on an export basis. The tariff of 1883 occurred after a downward swing toward the general trend had started, and that of 1890 caught the swine population in an expanding period. The Wilson tariff of 1894 and the Dingley tariff of 1897 both were enacted when the rate of increase was definitely less than the general trend. In none of the foregoing cases, however, could any influence of the tariff be determined, since the passage of each took place in the

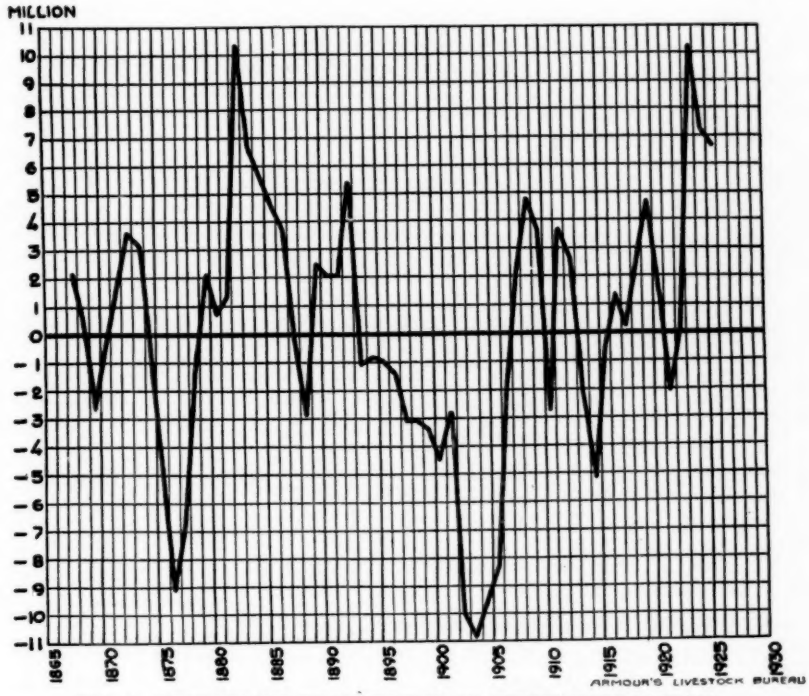

FIG. 4—DEVIATIONS FROM TREND IN SWINE POPULATION.

middle of an expansion or contraction movement rather than in its incipiency. The Payne-Aldrich tariff of 1909 in a similar way occurred after a downward swing had started, while the Underwood tariff of 1913 was enacted on the same general downward swing and just ahead of the expansion created by the war. The Emergency tariff came into effect at a low point, and the rise in hog population was extremely rapid thereafter, reaching its culmination in 1923 and thereafter dropping. It is interesting that under a protective tariff swine have been above the general trend seventeen years, and below it fourteen years. Under slight or no protection, swine were above the general trend fourteen years and below this trend fourteen years.

In sheep (Figure 5), the arguments for a protective tariff seem most nearly developed as far as effects on production are concerned. The tariff of 1894 just preceded the down-

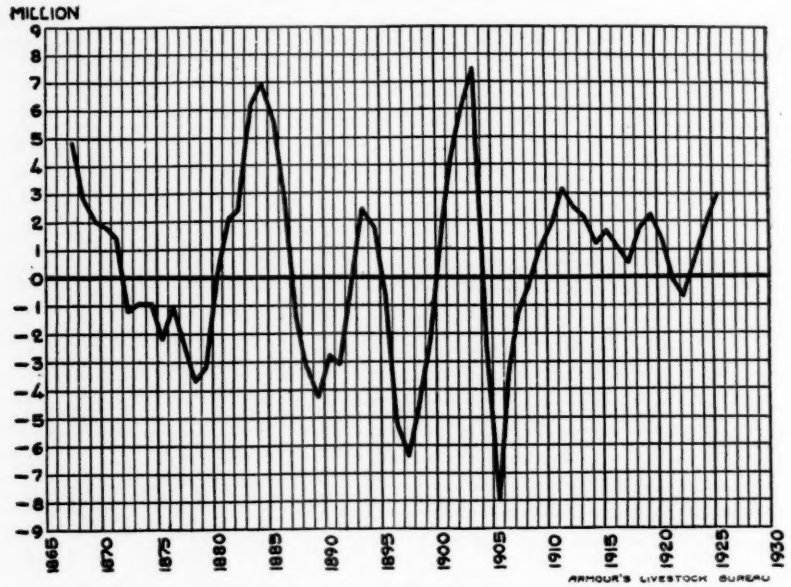

FIG. 5—DEVIATIONS FROM TREND IN SHEEP POPULATION.

ward trend which was reversed in 1897 with the Dingley Act. However, under the protection of this act, the sheep population dropped to a new low departure from the general trend in 1905. The Underwood tariff of 1913 caught the downward swing in the industry, and sheep did not follow the general expansion of other classes of livestock occasioned by the war. The Emergency Act of 1921 apparently stopped the compensatory swing below the general trend, and the Fordney-McCumber tariff of 1922 preceded the rapid climb in sheep population up to the present. Of course, it must be remembered that this climb is not actual but only in relation to the general trend.

While there seems some opportunity to interpret increases and decreases in livestock population, deviating from the general trend, in terms of the tariff, there is just as much material favoring the anti-protectionist as the protectionist. In other words, when the general trend of livestock populations is removed, the deviations in numbers seem to be more or less independent of tariff enactment.

II.

The second phase of this study deals with the effect of tariffs on prices. Unfortunately, none of the figures from this point of the paper forward carry back far enough to show the effect of the Morrison and McKinley tariffs. However, they all start under the protection of the McKinley tariff and the effect of changes from a condition of relatively strong protection forward can be studied.

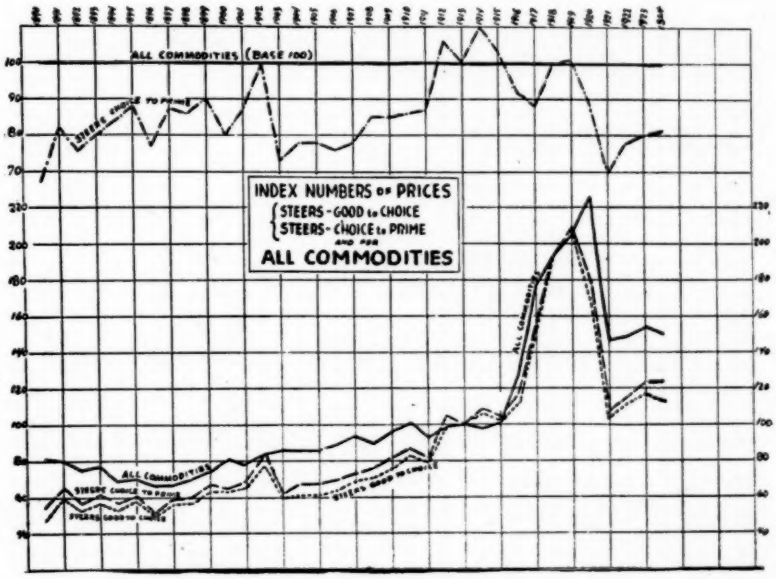

FIG. 6.

Figure 6 compares the index number of steer prices with the index number of all commodities. It shows that the second year following the passage of the Wilson tariff of 1894, steer prices took a sharp drop, but they had recovered their previous position by 1897 when the Dingley Act was passed. From then forward to 1899 the gain in price continued, but in 1903 values dropped from a point paralleling all commodities to a position not far from the level of 1890. Thereafter, the climb was gradual, with a short drop in 1913 at the time of the passage of the Underwood tariff. The effect of war in pulling up prices in 1914 was rather

apparent, as was the effect of our entry in 1917. However, the general trend of the cattle cycle was downward at this time, and these were merely incidental in delaying matters. The bottom was reached in 1921 when the Emergency tariff was enacted, and since that time the position of cattle has improved. However, this is at the point in the cattle cycle when improvement would be expected, so that it is doubtful whether much credit can be given the tariff change, except to admit that it may have postponed both the downward path and the upward trend rather slightly. Very

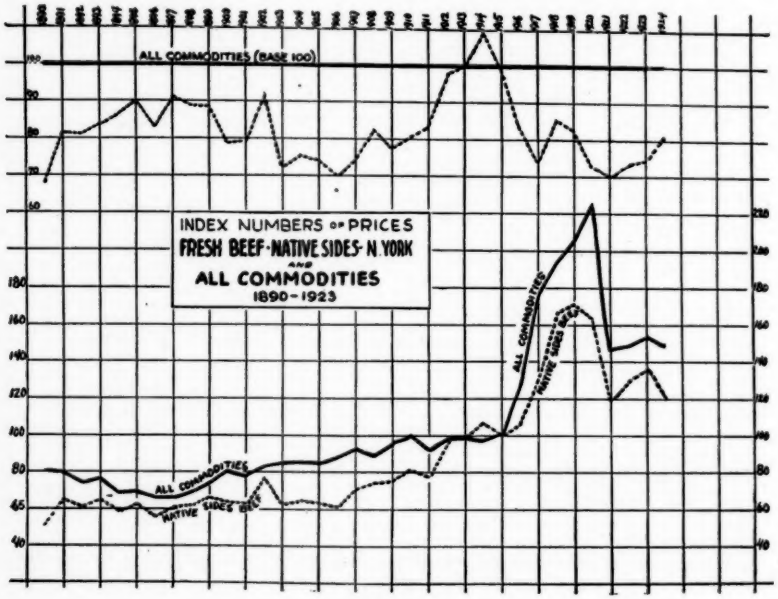

FIG. 7.

nearly the same story is told in the case of fresh beef, so detailed comment will not be offered.

The story in swine is unenlightening. Removal of protection by the Wilson tariff of 1894 coincided with the downward swing of prices and, furthermore, with the downward swing of purchasing power. On the other hand, the Dingley Act of 1897 just preceded the long rise culminating in 1902, when hogs returned to a purchasing power of 100. Following this, however, the cycle again swung downward

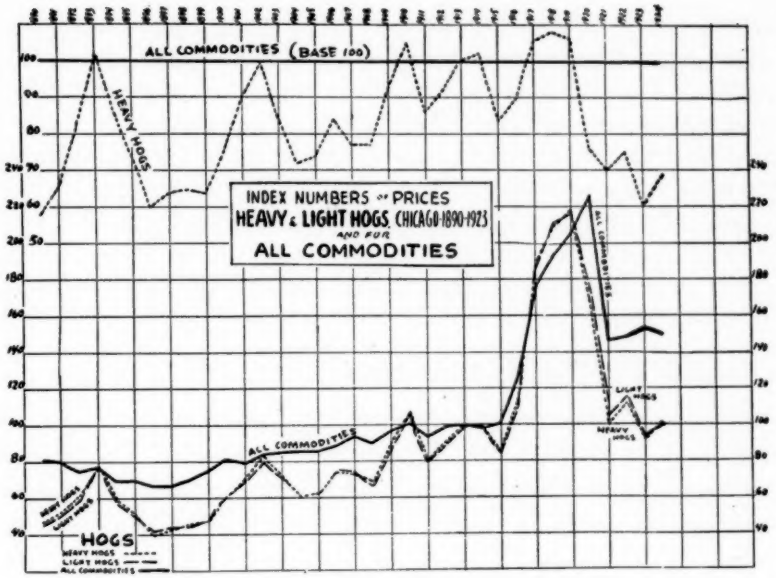
ALL COMMODITIES (BASE 100)
HEAVY HOGS
INDEX NUMBERS OF PRICES
HEAVY & LIGHT HOGS (CHICAGO 1890-1923)
AND FOR
ALL COMMODITIES
ALL COMMODITIES
HOGS
HEAVY HOGS
LIGHT HOGS
ALL COMMODITIES

FIG. 8.

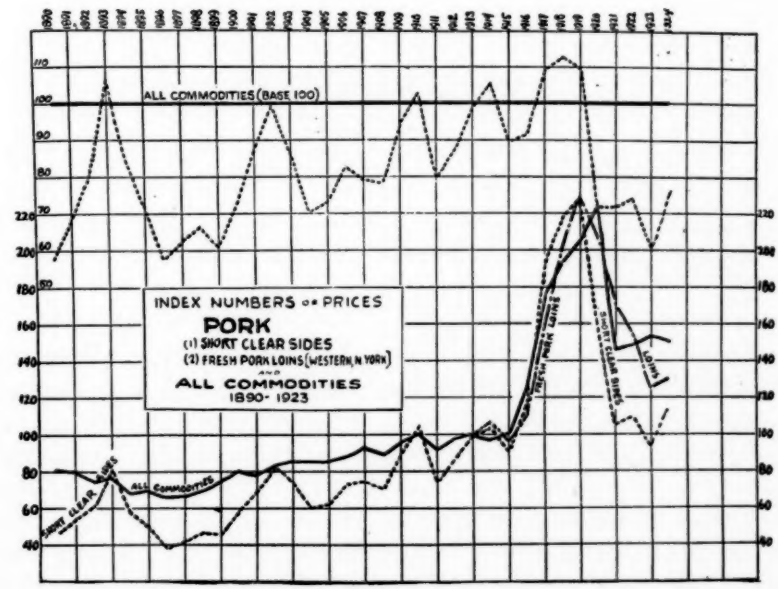
ALL COMMODITIES (BASE 100)
INDEX NUMBERS OF PRICES
PORK
(1) SHORT CLEAR SIDES
(2) FRESH PORK LOINS (WESTERN, N YORK)
AND
ALL COMMODITIES
1890-1923
SHORT CLEAR SIDES
ALL COMMODITIES
FRESH PORK LOINS
SHORT CLEAR SIDES
LOINS

FIG. 9.

and since that time shows very little coincidence with tariff changes. The curves for pork cuts, namely, short clear sides, follow so nearly the same trend as hog prices that detailed comment for them also is unnecessary.

The purchasing power of sheep is quite irregular in behavior. Despite the lack of protection under the Wilson tariff of 1894, sheep purchasing power rose steadily until 1898. With the Dingley tariff in effect, values dropped until 1903, when they rose through a new cycle culminating in 1905 at the peak and in 1911 at the trough. The pur-

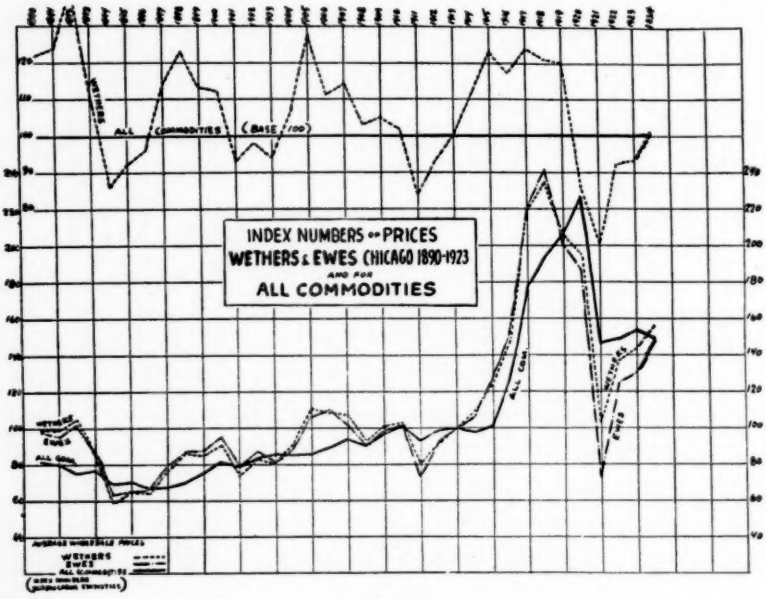

FIG. 10.

chasing power of sheep was recovering rapidly when the Underwood tariff of 1913 was passed, and the war carried sheep purchasing power up to a considerable height again, only to drop with all agricultural values in 1920. The Emergency tariff of 1921 was passed at the time when the industry was at a new low and, under the protection since that time, purchasing power has come back to 100. There may be some question as to the advisability of using wethers

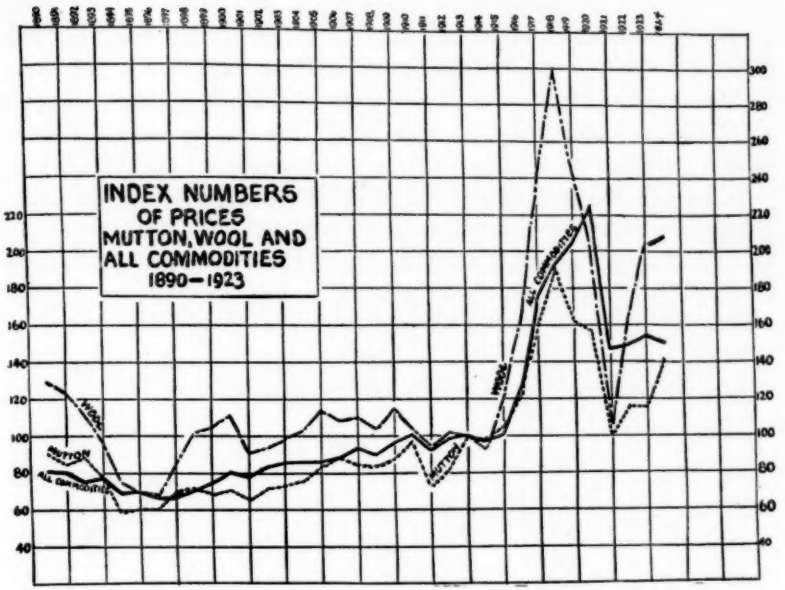
INDEX NUMBERS
OF PRICES
MUTTON, WOOL AND
ALL COMMODITIES
1890—1923
WOOL
MUTTON
ALL COMMODITIES

FIG. 11.

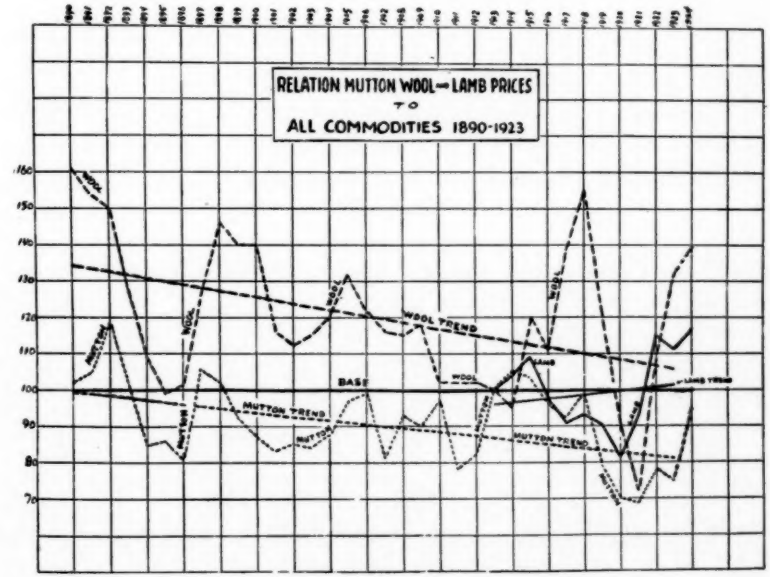
RELATION MUTTON WOOL—LAMB PRICES
TO
ALL COMMODITIES 1890-1923
WOOL TREND
MUTTON TREND
BASE

FIG. 12.

and ewes to measure the prosperity of the sheep industry, since Figure 12 shows that mutton is declining very rapidly, both with reference to all commodities and with reference to the average mature sheep prices. Both Figures 12 and 13 demonstrate very closely that the governing factor in sheep prosperity in the future is the price of lamb.

An examination of the wool situation shows that the purchasing power of wool was low in terms of all commodities in 1894, that it was recovering quite well by 1897, and

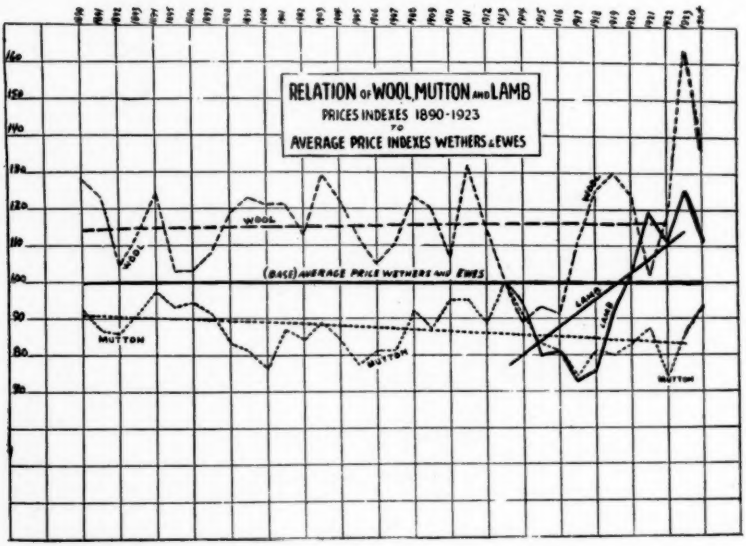

FIG. 13.

that it dropped below normal under the Dingley and Payne-Aldrich protective periods from 1897 to 1913. Despite the removal of protection under the Underwood tariff, prices rose rapidly due to the war, reaching a new peak in 1918 and a new trough in 1921. As in the case of sheep, the recovery under the protection of the last two tariffs has been tremendous.

The discussion to this point indicates that in so far as prices are concerned, there is rather more evidence for the effect of a tariff on prices than there is for its effect on volume of production. On the other hand, the distinctions

are not as clearly marked in hogs and sheep as in cattle, and there is a great tendency for the tariff changes to coincide with sensitive points in the general livestock cycles.

III.

The third point at which tariff may be expected to prove effective is in regard to the volume of trade. The tariff applies to international trade because of the directness of its levy, hence changes in total exports and imports provide the point of attack. The obvious effect of a decrease in

FIG. 14.

protection would be to stimulate imports and that of an increase in protection to reduce imports. The effect on exports should not be direct, although there seems to be a tendency for them in some cases to travel in reciprocal relations and in others to parallel the trend of imports.

Figure 14 presents the facts on the trade in cattle. It will be seen that the reduced protection of the tariffs of 1894 and of 1913 greatly stimulated imports, while the protective tariffs of 1897 and 1921 seemed definitely to be related to reduced imports. On the other hand, exports

gradually grew under the protection of the acts of 1883 and 1890, continued to grow after a slight setback from 1894 onward, despite the three years in which protection was reduced. After 1906 our country was approaching a balance between domestic supply and demand, and exports continued to drop off. Although they were stimulated somewhat by the war, they have definitely turned downward again, and an export trade in fat or feeder cattle seems quite definitely to be a thing of the past. We have reached a place where our national price levels are far superior to international, after cost of transportation is removed. Only an international crisis can restore our export trade even temporarily, and we may therefore expect no important result from future tariff changes on the volume of our exports.

The situation in beef differs only in degree. While the tariff of 1894 came at a time when the trend of beef exports was downward, a recovery occurred during the second and third years, and a strong export trade was carried on from 1897 to 1908. However, at this time we were already

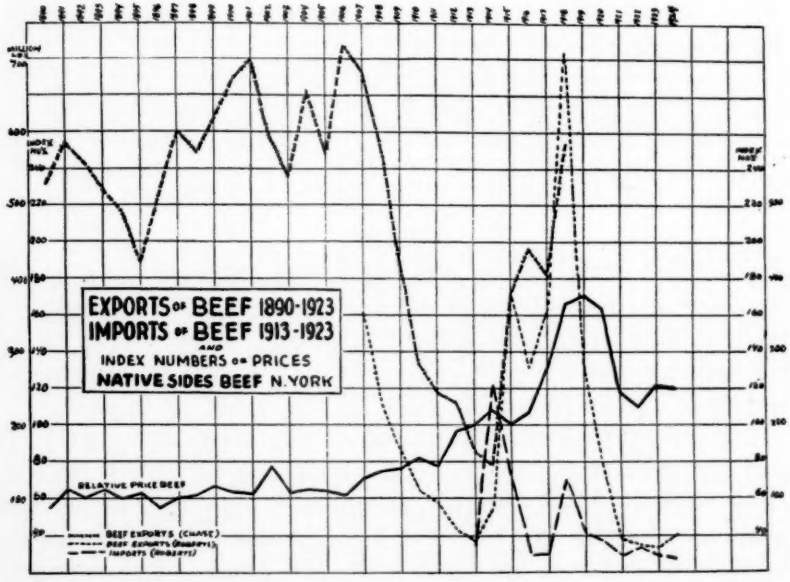

FIG. 15.

committed to the same reduction in outgoing beef trade that we were committed to in the cattle trade, and at the outbreak of the war our export beef trade had almost entirely disappeared. A removal of the protection in 1913 was followed by the sudden increase in exports, brought on by the European emergency, culminating in the peak of 1918 and followed by the tremendous drop of the subsequent years. The protective tariff of 1921 seems to have had no effect either in reviving or still further diminishing the trade. The data on beef imports are too few to permit of any generalization, but the first year after the removal

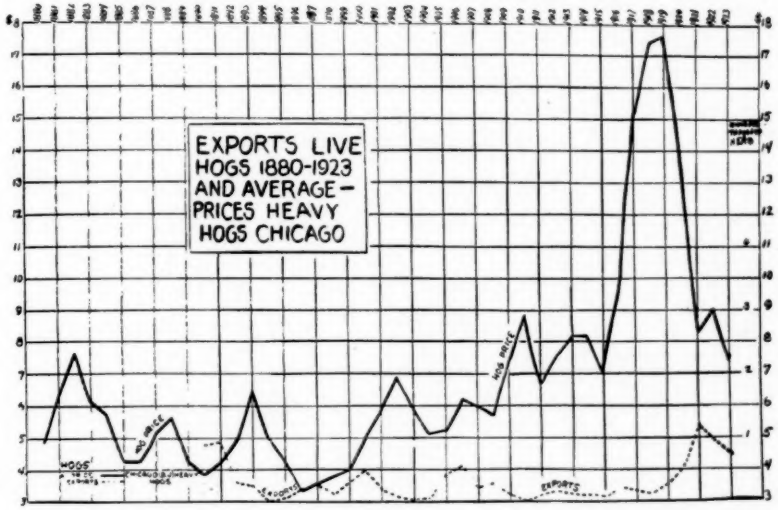

FIG. 16.

of the tariff in 1913 saw a great jump in imports, later reduced by the emergencies of the war.

Our export business in live hogs has never been large and our imports absolutely negligible. In general, there was a slightly rising trend in exports following a reduction in protection in 1894 and again following a reduction in production in 1913. Furthermore, there was a decrease in exports (Figure 16) following the Emergency tariff of 1921 as well as following the McKinley tariff of 1890. But the natural volume of international trade in live hogs is so small that no conclusions should be drawn.

Figure 17 measures the export trade in pork. The lowered duties of 1894, preceded an increased export volume, while the higher rates of 1897 preceded a decrease in trend. Similarly, the lack of protection in 1913 again anticipated the mounting export volume due to the war, while the tariffs of 1921 and 1922 caught exports in the downward swing. There seems to be association between export volume and changes in protection, but cause and effect are not clear. Possibly the increased export of pork may be indirectly compensatory for increased imports in some product not agricultural whose

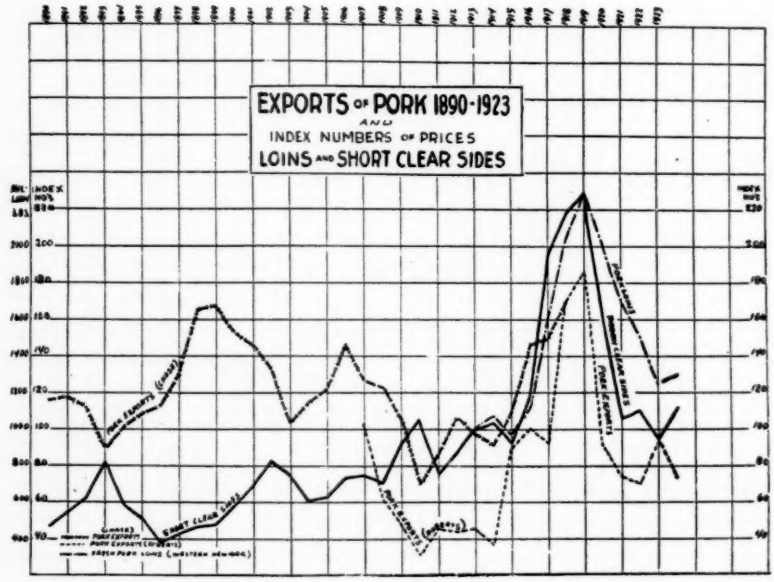

FIG. 17.

entry was permitted by the reduced tariffs. Approximately the same sort of a story is told for lard in Figure 18, although the trend of exportation of this product has progressively increased ever since 1913.

The sheep and mutton trade has perhaps been the most sensitive to changes in the rate of protection. In each case a reduction both in imports and exports has taken place following increased protection, and an increase in imports has always followed reduced protection. In Figure 19 it will be seen

that the imports of sheep mounted rapidly following the tariffs of 1894 and 1913. Exports increased also from 1894 to 1896, but they fell off following the Underwood tariff of 1913. Mutton exports and imports are relatively recent matters. Mutton exports (Figure 20) mounted rapidly following the removal of protection in 1913 while imports decreased, but it is undoubted that this resulted from the great pressure due to war demand throughout the world. The marketing of the world's surplus of 1920 came under the non-protective phase of the tariff. America was the natural market financially but

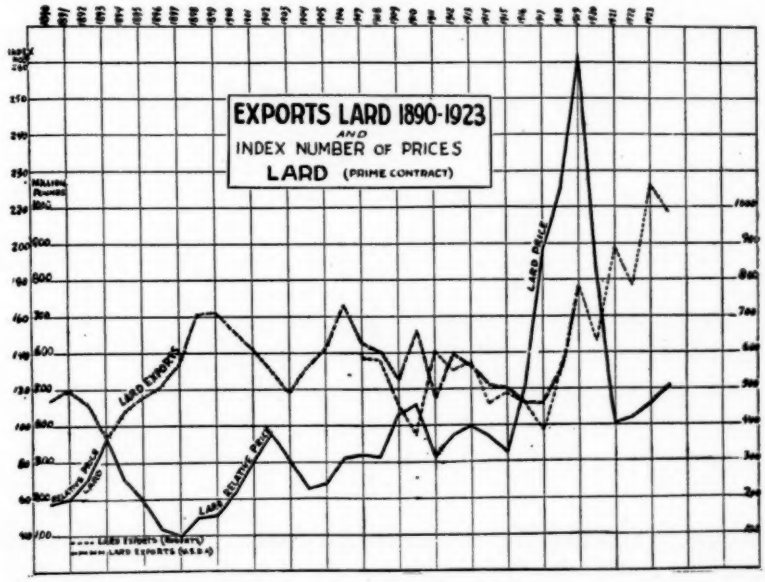

FIG. 18.

the imports were overdone and much of the New Zealand and Australian product had to be re-exported. This accounts for the great rise in exports in 1921. The Emergency tariff and its successor preceded rapid declines in both types of trade. Nevertheless, because the war accumulations were consumed by that time, it is questionable whether this reduction of imports and exports is in any wise related to the tariff situation. It is just as reasonable to assume that the consumption of the world's surplus in 1920 and 1921 would have relieved an over-supplied market and produce the same effect.

IV

The conclusions to be drawn from this somewhat non-directive discussion of facts are relatively few. The most important is that the tariff is a positive regulator of exports and imports, both of live animals and of meats and meat products. It seems to have little effect either on volumes of production or prices. Some indications appear that occasionally it may displace the entire production or price level upward or downward, but this evidence is not particularly clear,

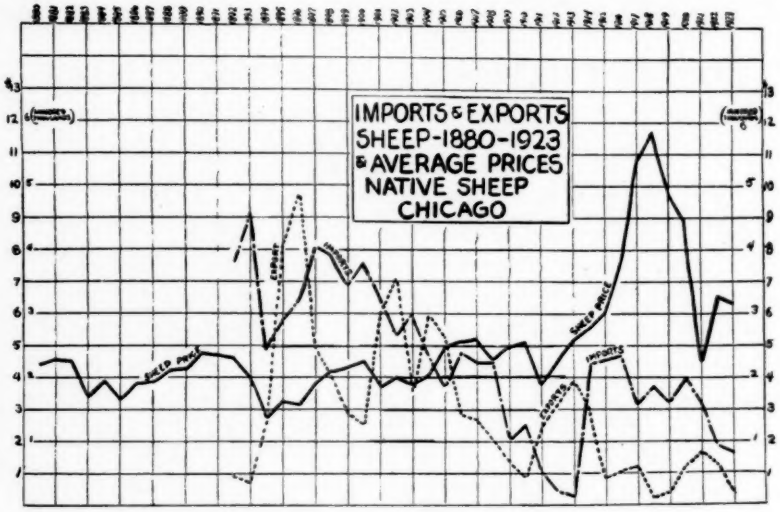

FIG. 19.

and many times it is distinctly contradictory for the same species of livestock. The evidence also seems rather clear that the tariff is more effective on products such as beef cattle and sheep, where our domestic market more nearly absorbs all of our output, than it is on pork and lard, where there is always a large exportable surplus.

It now becomes important to consider the general question of future tariff policy. To what extent can the farmer demand increased protection, especially for his cattle and sheep? The welfare of the population as a whole must be considered, and the question to balance is whether the increased price level necessary to produce volumes of beef, mutton, and lamb in line with our growing food requirements is worth its cost to

the consumer. In other words, do national emergencies exist requiring self-sufficiency in meat production, or will we do better with lower price levels, smaller domestic production, and a greater degree of dependence on surplus meat producing nations? There is no question but that all of the infertile and relatively barren lands of the United States can be made to produce meat animals providing the selling prices are

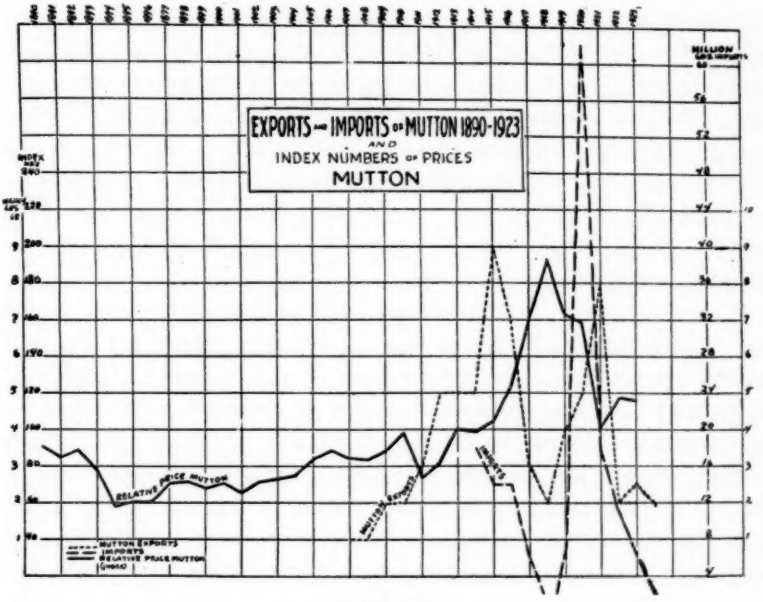

FIG. 20.

sufficiently high to cover the cost of production. In many cases, however, the prices necessary for such an operation almost parallel the inflated values of the war period.

Has the livestock producer a right to expect such price levels? Is it consonant with public policy to attain these price levels by tariff protection while awaiting the growth of population to a point where the restricted per capita demand which always follows high prices will still stimulate the operation of range and other lands not now in profitable use?

These questions are difficult to answer. As a representative of the packing and meat industry, it is impolitic for me to venture any assertion. If the cause of the consumer is presented and one advocates price levels that will restrict

production only to the choicest agricultural regions, it will appear that my industry is seeking to profit from the importation of meat products from competing countries. On the other hand, if a degree of protection is asked that will bring price levels to a point where all land in the United States can contribute to the livestock and meat supply, it will appear just as positively that my industry would be attempting to hold up prices to the consumer. As a matter of fact, the packers involved in interstate and international trade have in the long run only slight interest in the policy to be followed. In either case, they can handle no more than the volume of meat which the public will consume, and their operating margin on that volume of meat remains about the same whether the meat is domestically produced or imported. The problem is, therefore, an agricultural one except for its effect on the commonwealth as a whole.

It is my opinion that tariff protection up to the point where per capita consumption is consequently diminished, is warranted simply from the standpoint of self reliance and justice to the agricultural classes. On the other hand it is not to the agricultural interest to let prices rise to such levels that our consumption must be reduced and population increased to consume our production. It is far better to maintain the public taste for meats in its present volume even if, in the case of lamb and beef, small importations from more favorable producing countries may become necessary. Livestock is not a field of production susceptible to monopoly or artificial manipulation, and any attempts at handling its production entirely domestically can indeed react unfavorably in the long run.

From the viewpoint of agricultural progress, it is necessary that a small proportion of our crops be marketed below cost of production in order continually to stimulate greater efficiency and greater cheapness of producing, processing, and marketing. Of course, the average crop must be profitable, but the marginal portion which is unprofitable occasionally is the greatest stimulus we possess toward advancement. The tariff problems of the future should be so met that consumptive standards are not materially changed and that production, processing, and marketing efficiency will continue to improve.

A METHOD OF MEASURING MANAGERIAL ABILITY IN FARMING[1]

M. K. BENNETT
FOOD RESEARCH INSTITUTE, STANFORD UNIVERSITY

I.

Investigators in farm management and farm organization, particularly those engaged in the analysis of complete farm cost records gathered by the route method, have always encountered difficulty in determining which of the farms of the group under investigation were most successfully managed. No simple or generally satisfactory method of answering the question has as yet been devised. Yet, if it be (as is commonly acknowledged) the chief function of farm management investigators to give advice on efficiency in farm operations and as to choice and proportions of crops and livestock enterprises, it becomes necessary to isolate and measure the managerial function of the farmer as distinct from his landowning, laboring, and financing functions.

Such measures of the farmer's ability as have customarily been employed are open to serious objection on the ground that the measures used have applied not to ability to manage a farm but to the prosperity of the farmer or his family. The two things are obviously not the same. Any farmer may be a good manager of labor, of implements, and of land, and yet be driven from his farm because of unwise outside investment, foolish expenditure of money for personal pleasure, excessive indebtedness, or too small or too large acreage; or he may prosper, though he is a poor manager, by inheritance, successful outside investment, increases in land value, or other causes. It has admittedly been impossible to measure farm prosperity; yet it has been the practice of farm management investigators to attempt in fact to do so, even while ostensibly seeking rather for a measure of managerial ability.

Labor income and percentage of return on investment have

[1] The manuscript for this article was originally submitted to the editors of the Journal early last fall. Owing to previous commitments it has not been possible to present it until now.—Editor.

been the indices most commonly used. But neither measures farm prosperity—a fact needing no discussion. Nor does either measure managerial ability, though both, employed separately or in combination, are employed as if they did in fact provide such a measure. According to accepted notions, labor income shows how much in monetary terms a farmer receives after deduction of 5 per cent interest on the farm capital is made from the difference between receipts and expenses, the expense figure not including an allowance for the operator's labor. The roughness of the measure is apparent when it is realized that interest on investment at 5 per cent is an arbitrary figure, and that the principles for valuation of farm capital are in themselves uncertain.

A labor income figure is obviously much affected by size of farm, the interest rate used, and the valuation principle employed. An array of labor income figures cannot show which farmer managed his farm most efficiently; as such a measure, it is quite useless. The figure is also incomplete in that it ignores the value of products contributed by the farm to the farm home. Percentage return on capital is likewise unsatisfactory. It is computed by allowing the operator certain wages which are included as an expense, then deducting total expenses from total receipts, and finally calculating the percentage of the remainder to the farm capital. This figure also ignores the value of products furnished the home by the farm, and its validity depends upon sound principles of valuation.

Thus, even if valuation principles are assumed to be correct, the labor income figure places emphasis on the farmer in his function as laborer, while the percentage return on capital places emphasis on the farmer as a capitalist. Yet it does not in fact happen that all farmers of a given group are predominately one or the other. The two figures cannot be combined with each other or with the figure for products furnished the farm home by the farm. It is manifestly unfair to designate given farms as successful on the basis of any one of the three figures or by attempting to combine and weight the three figures together. An index of farm prosperity cannot result in either case, nor will an index of managerial ability be obtained.

Another method of measuring efficiency in farming has been the comparison of costs and returns on each of the separate farm enterprises so as to determine which of a group of farmers conducted a given enterprise most successfully. Yet this method fails to consider the management of the farm as a whole, for a given farmer seldom shows himself to be superior to all his neighbors in his management of all his enterprises, or the opposite. Rather, it is possible for one man to manage well here but poorly there, and all sorts of gradations will appear in a given group. There exists no way to weight the importance of each enterprise to the complete farm business, and thus it becomes impossible by the process of enterprise study to select from a group the farms successfully managed.

An index figure has never been employed in preference to a monetary or a percentage figure in measuring managerial ability. Such a figure can, however, be devised, with the result of obviating difficulties inherent in the use of the methods and significant figures described above. The basic idea of the proposed index is the contrast of returns *which should in theory be obtained* from a given amount of land, labor, and capital, with the returns in cash and goods *actually obtained* in the course of a year. A further idea in employing an index figure is the avoidance, so far as possible, of figures reached through valuation processes, rather than through business transactions which are a matter of record. The advantages accruing by the use of an index number will be the elimination of complications arising in other indices through differences in size of farm and condition of ownership (tenancy, part ownership, full ownership).

Any farmer, whether he be owner, hired manager, owner and renter, or tenant, has at his disposal certain land, certain labor, and certain equipment. Under a system of private ownership and free competition, society recognizes that a return, inexactly defined, is due to owners of land, labor, and capital productively employed. It is the function of the person who guides the production process (in farming, the farm manager or the farmer in his managerial function) to see to it that the land, labor, and capital under his direction yield

values equal or superior to those values which the three factors of production are by common consent expected to return to their owners. The manager himself is allowed to keep what surplus he can create, but on the proper size of his surplus no social agreement exists.

This point of view may be clarified by the assumption of a hypothetical case. Assume a farm of 160 acres, upon which stands a house and the other usual farm buildings. Let the land and buildings be owned by X. Next, assume the existence of work stock, productive livestock, machinery, seed, feed, and cash, all owned by Y. Further, assume a family residing in the house, whose function is to perform the manual labor on the farm. This family, headed by Z, controls a fund of potential labor. Lastly, assume that by common consent of X, Y, and Z, M is permitted to assume direction of farm operations at his own risk. It will be M's function to return to X a remuneration for the use of land and buildings, to Y for the use of capital, to Z for the use of labor. M must so manage the farm as to satisfy the "just" demands of the other three men and to make whatever he can for himself. His own remuneration is quite unfixed by any sort of social agreement, but that of X, Y, and Z is, roughly speaking, fixed.

Obviously, such an assumed instance does not fit the facts of farm operation, but it will serve to differentiate the economic functions which are entangled in the work of practically every farmer. It is this entanglement as much as any one thing which confuses current practice in the analysis of the farm business. Once it is seen that the farmer in his managerial function, as illustrated by M, must create returns capable at least of satisfying the claims of X, Y, and Z, the measurement of managerial ability can proceed. A formula may be devised so as to result in an approximate measure of efficient management.

Let a=wages assigned operator.
b=wages assigned family.
c=farm cash rental equivalent.
d=interest on machinery, livestock, and other capital.
e=board furnished all farm labor.

Let f=cash receipts from the farm business.
g=cash expenditures for the farm business.
h=produce consumed in house.
i=net change in inventory.

Items of the first group, which may for convenience be termed "assignable income," represent the claims which the farm manager should meet; items of the second group, which may be termed "actual income," represent in algebraic sum the sources upon which he must rely to meet the claims. If, on a given farm for a given year, the total of one group exactly equals the total of the other, the conclusion may be drawn reasonably that the farm yields fair returns to land, labor, and capital, but no profits. Conditions being what they actually are, with the farmer embodying in himself the functions of land-owner, capitalist, laborer, and manager, such a farm may be said to be successfully managed or, where the total of the second group is less than the first, unsuccessfully; or the opposite.

The two groups may be contrasted by a formula:

$$I = \frac{f - g + h \pm i}{a + b + c + d + e} = \text{index of managerial ability}$$

Results of the formulae for several farms will be figures 1.21, 2.34, .65, .97, and so on; or 121, 234, 65, and 97 if the index constant be expressed as 100 rather than as 1. If a figure for a farm reads 234, the farm manager has been able to meet more than twice over the obligations due to the owners (often himself) of land, labor, and capital which he directs; he is a successful manager, capable of achieving extensive profits. If the figure reads 65, he is clearly unsuccessful. Figures from twenty farms would permit the relative success in management of each farm to appear.

II.

The validity of the index number will obviously depend quite as much upon the exclusion of certain aspects of rural income which customarily appear in farm bookkeeping rec-

ords, as upon the principle of contrasting assignable and actual income.

The matter of exclusion must first be considered. Income or expenditures caused by investment outside the farm should be excluded, as should gifts received, personal or household expenditures, and appreciation or depreciation in land values. These items no doubt affect vitally the prosperity of the farming class, but they are quite dissociated from management of the farm business. All transactions resulting from condition of ownership must also be excluded; otherwise the functions of land-owner, manager, and capitalist will be confused. Such items are payments of rent, proceeds of mortgage or other loans, and payments of interest or principal on notes and mortgages. With these necessary exclusions, consideration may be given to the meaning and computation of each item in the formula.

Item (a), wages assigned operator, represents the sum which manager M of the hypothetical case must pay to laborer Z; but since M and Z are under actual conditions the same person, and no money transaction takes place, some method of evaluating the wages of Z must be determined. The basis of the valuation should be the amount which any farmer in any area would have to pay in order to hire a laborer to perform the *manual* labor which he, himself, actually performs. Thus, the hours of work expended by the operator in various farm operations should first be determined, as is the custom in route cost study. To these hours should be applied the going community rates for general farm labor hired by the month, with board. Such a rate is desirable not because it is theoretically most accurate, but because it can be obtained. A sounder method would be to value the work performed on each operation, but the possibility of such a valuation is remote. Attention need not be paid to special wage rates like those for harvest labor, for the contention can reasonably be made that a farm laborer hired by the year and expected to perform harvest work receives fair remuneration through the leveling process, whereby he receives perhaps too little in some months but too much in others. The allocation of a definite sum to item (a) is completed by mul-

tiplying hours expended by the operator each month by the wage rate of the community for that month and adding the twelve products.

Item (b), wages assigned family, should be computed on the same basis. Monthly expenditure of labor by each member of the family must be accounted for and multiplied by the community rate for equivalent labor in each month. But family labor is of diverse quality, no community rates exist, and a much rougher estimate of its value becomes necessary. The estimate may be made on basis of the per cent of efficiency of each family member to an able-bodied and mature laborer. A boy of 15, for instance may be said to be 75 per cent as efficient as a mature laborer, and hence due wages 75 per cent as high. The method is admittedly rough but its inexactness seems inescapable.

Item (c), farm cash rental equivalent, may be determined by questioning the operator as to the sum which he would accept as rental if he owned the farm or would pay if he desired to rent it. His reply may be checked with cash rental rates in the community and will probably conform closely to them. The cash rental basis of determining what is due the land-owner, X, seems sounder than the method of allocating to him interest on investment, for this method involves the necessity of valuing the farm and of determining proper interest rates, both of which are highly difficult.

Item (d), interest on machinery and livestock, will be difficult to calculate. The item of cash capital will be best ignored for purposes of expediency. It will be inextricably intermingled with the personal cash account, it will fluctuate in volume throughout the year, and it is probably a small item at best under actual farm conditions. For livestock, valuations at current farm prices should be determined at the beginning of the year, and the value and date of accessions noted. Machinery valuations are more difficult to ascertain. A combination of original cost less depreciation on the basis of usual length of life, together with the farmer's estimate of use value, probably provides a sufficiently accurate and workable basis. The total investment should be multiplied by a percentage rate, and what the rate should be is a question

decidedly open to dispute. Stated in another way, the question is, what rate of return is due to capitalist, Y, the owner of the livestock and machinery? Commonly, it is held that circulating capital in the form of machinery and livestock should return to its owner a percentage of its value equal to the current rate of interest on chattel mortgages in the community. Chattel mortgage rates usually run as high as 8 or 10 per cent; and mortgages are usually given on less than 50 per cent of the value of the chattels. There is, clearly, a liberal allowance for risk on the lender's part concealed in the current chattel mortgage interest rate. As an owner of capital any farmer is entitled only to interest, not to compensation for risk; for such compensation accrues to the manager or entrepreneur. Consequently Y, who is purely an owner of capital but not a manager, should be allowed interest on his property not at the risk-including chattel mortgage interest rate, but at a risk-excluding rate. Such a rate is to be perceived in the net return on government or other high-grade securities, and at the present time ranges about 4¼ or 4½ per cent. Item (d) should be calculated on the basis of valuations as above and the riskless interest rate. Monthly calculations will be necessary in order to account for fluctuations in the quantity of livestock, feed, and supplies, and perhaps also for work stock. Interest on machinery may usually be computed by the year.

Item (e), board furnished laborers, must be calculated because manager M is obliged to furnish not only cash wages to Z and the laboring members of his family, but also board, and the wages rate used in computing items (a) and (b) can result in a sum showing only cash wages. The calculation of item (e) is necessarily difficult. An approach might be made to the problem by designating the difference between monthly wages with board and monthly wages without board, as the value of board. But in fact it is not so, but rather represents the value of board and lodging; M pays the value of lodging to landlord, X, in the figure for farm cash rental equivalent (item c), and to duplicate charges places an unfair burden on M. To disentangle the value of board from the value of lodging as they appear in the difference between rates

of wages for labor, with and without board, thus is impossible if absolute accuracy be sought. A rough and unsatisfactory measure, however, may be obtained as follows: Ascertain the opinion of the community as to the value of monthly board (without lodging) for mature general farm labor by averaging several individual estimates, check the average thus reached with the margin between monthly rates for general farm labor with and without board (the average figure should be smaller than the margin), and apply the adjusted result to the months of labor expended by operator and family (items a and b). To the resultant figure should be added a sum, similarly determined, for board of hired laborers.

Item (f), cash receipts from the farm business, should include all sales of farm produce and of labor (losses in exchange labor to be subtracted) and of miscellaneous items, but not receipts from gifts, outside investments, rent of land or buildings, sales of land, or proceeds of loans.

Item (g), cash expenditures for the farm business, should comprise such cash expenditures as are made strictly for the purpose of running the farm business. These will include payments for hired labor, seed, machinery, livestock, fertilizer, breeding fees, feeds and supplies, crop insurance, and repairs to machinery and buildings, except dwelling. Expenditures for rent of land, purchase of land, payment of interest or principal on notes or mortgages, personal or household expenditures, taxes, and permament improvements in land should be excluded, since most of these payments accrue to the farmer as capitalist or land-owner, not as manager. To include taxes, as well as cash rental, as expense, is to duplicate charges, for the cash rental figure includes an allowance for taxes.

Item (h), farm produce consumed in house, should include garden vegetables, fruit, milk, eggs, meat, and fuel supplied by the farm to the farm home. These items should be valued at the price which would have to be paid if the same produce were purchased. In some localities the valuation will be on the basis of prices paid by wholesalers, in others prices will be those paid by retailers. Special effort should be made to

ascertain the value of garden produce, an item customarily not accurately obtained in route cost work.[2]

Item (i), net change in inventory, is likely to be difficult to ascertain on account of the emergence of valuation problems. Yet changes in land values may be excluded, since appreciation or depreciation of land in a given year is dissociated from managerial ability. Likewise, changes in the item of cash are accounted for through items (f) and (g). Depreciation on farm buildings need not be computed, for the necessity of valuing buildings in inventory is eliminated (as is the case with land) by employing a cash rental figure in item (c). It is necessary only to value machinery, work stock, livestock, and produce, under methods outlined under item (c).

III.

The questions may well be asked, what specific advantages accrue from the use of the method of measuring managerial ability proposed above? And is the method susceptible of practical application?

The advantages of the index figure over a labor income figure, a percentage figure of a return on investment, or the study of separate enterprises have been touched upon. But three advantages may be reiterated. In the first place, the index figure is so constructed that size of farm has no influence in determining managerial ability: if a given farm be large, both the assignable income and the actual income are large, the reverse being true of small farms. In the second place, conditions of tenure cannot affect the index figure. And in the third place, degree of intensity of farming cannot affect the result, since both sides of the equation will be equally affected by operations due to extensive or intensive farming. No other method at present permits the measurement of the managerial ability of any farmer on any size or type of farming under any system of tenure, and such a measure seems to be highly desirable.

[2]This item is perhaps larger than has often been supposed. It is probably as important as interest on investment in livestock and machinery, which, for the average farm out of 100 farms in Indiana, would at 7 per cent have reached only $159.32 per year for each of eight years. See Hawthorne and Dixon, *Farm Organization and Farm Management in Clinton County, Indiana*, U. S. D. A. Bulletin No. 1258, Oct. 17, 1924, p. 5, for figures permitting the calculation.

The reason for the desirability of such a measure is sufficiently apparent. To establish the fact of successful or unsuccessful management on all of a group of farms is the first step towards sound and thorough analysis of the farm business. Not until the fact is established can analysis of the factors in management responsible for success proceed on a sound basis. Efficiency in the conduct of various separate farm operations and farm enterprises can thereafter be related to the successful management of the farm business as a whole—a necessary procedure which has in practice not been possible. If the function of the farm management specialist be to improve farm management in specific areas by specific suggestions, then the value of the suggested step in analysis of farm cost records is clear.

The use of the index number is none the less strictly limited to analysis of the efficiency of the farm manager in planning enterprises, conducting productive operations, buying, and selling. No basis is given for study of the effect of tenure, investment, land values, size of farm, size of family, standard of living, or type of farming on the prosperity of the farm family or the farming class. For these extremely important matters another sort of a measure needs to be devised—one dealing with farm prosperity, not solely with managerial ability. Further, the suggested method of reaching an index number does not settle some persistent problems of valuation. It perhaps renders a negative service in re-emphasizing these problems, though it also provides means for the avoidance of a few. Again, the method is adapted only to the analysis of data gathered by the route method or from complete cost accounts, at least until hours of labor expended in various farm operations can be determined by some other process.

A final limitation, and an important one, is the fact that what will be shown by any series of index numbers constructed for, say, twenty farms for a given year is not the absolute efficiency in management of each farmer, but rather each farmer's good or bad fortune combined with his managerial ability. These cannot be separated by any possible means. Yet the significance of the indices is not altogether nullified; it is merely modified. If indices for the same

twenty farmers be constructed over a period of ten years, the element of fortune (in exceptional climatic conditions, prices, and freedom from pests) which affects the index number of a given man each year should be ironed out and the man with the consistently highest index numbers will appear to be in fact the best manager. Nor is the method useless when pursued only for a single year, for it will still be possible to determine why a given farmer's index of managerial ability is high or low by observing how far sheer luck has influenced his figure. If there be any basis for the conviction that farming is not wholly a matter of chance, the index number here suggested will still serve as useful a purpose as any other accounting figure; for luck inevitably influences them all.

The foregoing pages are submitted not as a tested method of measuring managerial ability, but as an exposition of an idea which may prove useful. Admittedly, difficulties would arise in the process of employing the formula suggested; not only with respect to valuation, but also with respect to the possible omission of items requiring attention. Yet the basic reasoning leading to the compilation of an index number seems sound; and it is submitted in the hope that, when alterations of detail have been shown by practical application to be necessary, some contribution will have been made to the technique of investigation in farm organization and farm management.

THE PLANS AND ORGANIZATION OF CO-OPERATIVES

O. B. JESNESS
UNIVERSITY OF KENTUCKY

Some of the premises and conclusions embodied in an article, "How Shall Cooperatives be Organized?" in a recent issue of this Journal[1] seem open to question. In view of the prominence of cooperative marketing at this time, they appear worth reconsidering from a different viewpoint.

The author of the article raises the question whether a cooperative association should "comprise many federated units which have been slowly evolved by farmers in local communities" or should "consist of a centralized agency which has been built for the growers by outside organizers." In bringing out this point he asks the question, "Should it result from the careful experimentation of farmers or from the quicker organization of marketing experts?" In his discussion, he mentions two "theoretical" objections to quick organization by outsiders, (1) that the organization is not necessarily dependent upon a spirit of cooperation, and (2) that it is not built upon a system of local units. He quotes several statements from the writings of the late G. Harold Powell in which reference is made to the importance of an organization resulting from a recognized need and of its being based on local units. He suggests that outside organizers may establish an organization by arousing enthusiasm and the employment of the "price appeal." Thus he says, "Instead of invoking the members' idealism, the large-scale cooperative formed by non-farmers appeals to the purse, and if that fails, to the law." He further contends that "All associations talk about cooperation abstractly attempting to create a 'cooperative spirit.' But in one type of association the cooperative spirit precedes the association, and in the other, if it comes into existence at all, it follows the association." Along this same line he says, "But there is no doubt that a cooperative society can be built upon the price appeal, backed by the law, with

[1] Tobriner, Mathew O., *"How Shall Cooperatives Be Organized,"* Journal of Farm Economics, October, 1924.

little so-called 'necessity' for cooperation and still less 'cooperative spirit.' "

The article in question sets forth the following as objections to building organizations upon the basis of local groups: (1) This method requires a long time because the farmers in each community must realize the need for organization. (2) The method is not only slower but is more difficult because the difficulty of farmers organizing of their own accord is greater than the "coaxing" of farmers into centralized associations by organizers. The difficulty of getting foreigners to organize of their own accord is mentioned. He also suggests that "in the long run, the federated association is liable to be less beneficial economically and financially than the centralized association." Another point which may be worthy of mention is embodied in the statement that "In the cooperative movement of today, the commodity organization is attempting to displace the locality organization." In the concluding paragraphs it is indicated that the federated plan theoretically is the better method of organization but that the other "is the more feasible of the two, since it is quicker, less difficult, and cheaper."

In giving consideration to the points raised by Mr. Tobriner it is well to have clearly in mind the different types of cooperative associations. Up until late years, local associations received the most attention in the cooperative movement. More recently, the emphasis has been placed upon central organizations, of which there are two general groups, one consisting of federations built up out of definite local units and the other of centralized associations in which there are no specific locals. Under the federated plan, the farmers are members of the locals and these in turn constitute the larger bodies. (In some cases district organizations may intervene.) In centralized associations, the farmers are members of the central association. The term "commodity organization" is often applied to the latter group but since this is fully as applicable to federated organizations it is misleading and its use therefor should be avoided.

The question as to whether large-scale cooperatives should be federations of local units slowly developed by the farmers themselves or should be centralized associations organized by outside organizers, which is raised by Mr. Tobriner's article, involves several separate and distinct questions. One of these relates to whether large-scale associations should be on the federated or the centralized plan. Another involves the work of organizing, whether this should be done by the farmers themselves or by outside organizers. A third question hinges upon the term "slowly," namely as to whether or not the organization of a federation necessarily is a much longer drawn-out proposition than the organization of a centralized association.

The selection of the plan of organization to be employed should not be dependent upon whether the enterprise is organized by the farmers themselves or by outside organizers. The conclusion that this is the basis of selection may have resulted from the prominent part taken by a certain active organizer in recent years in the formation of large associations on the centralized plan. The decision as to whether the federated or the centralized plan should be adopted is deserving of more consideration than is involved in questions as to who does the organizing and the ease of organization. The commodity itself is entitled to the greatest consideration. California oranges present a situation where definite locals are highly desirable. Local pools are adapted to local variations in the fruit. Local receiving facilities take care of the physical handling of the fruit very satisfactorily. Place distribution is important in the case of oranges. Only limited control can be exercised over the time element in their sale. When we turn to burley tobacco, we are confronted with an entirely different set of marketing problems. The outlets are concentrated in the hands of a few buyers. There is no highly organized market comparable to that in the case of wheat, which the organization can follow. Large carry-overs from season to season are normal, not exceptional. Time distribution is a big factor in cooperative tobacco marketing, place distribution is of little importance. Under the circumstances, a

large association appears essential for tobacco. Its holdings need to be administered as a unit. Pooling needs to be general by crop years because local pools or monthly pools are not feasible. While a federation is well suited to oranges, the centralized plan is the one for burley tobacco. Local cooperative creameries and cheese factories make highly suitable units in central sales organizations such as the Wisconsin Cheese Producers Federation and the Minnesota Cooperative Creameries Association. The Twin City Milk Producers Association, on the other hand, must handle the problem of marketing fluid milk in Minneapolis and St. Paul as a unit, and turns no milk marketing activities over to locals.

Raising the question as to whether cooperatives should be farmer-organized or be organized by outsiders, suggests that there are two distinct classes of organizations from this viewpoint. As a matter of fact, growers have a large part in the organization campaign even when professional organizers take an active part and the larger developments make use of more or less outside organization assistance. For instance, non-growers had a part in the organization of the Burley Tobacco Growers' Cooperative Association, but much of the work was done by actual tobacco growers, and the organization could not very well have been established otherwise. In some organizations, such as in the case of the ill-fated U. S. Grain Growers, the work of membership solicitation is delegated to paid solicitors. In other cases, it is done by growers or others who give their time for this purpose. Some organizations may have plans developed mainly by a group of growers and then rely upon paid organizers to get members; others may have the plan worked out by the outside help and rely upon volunteer aid to get members. The differences are differences in degree of outside influence and any classification on this basis is necessarily merely relative, certainly not absolute.

Can not outside organizers form a federation as well as a centralized association? For instance, was not considerable outside assistance used in the organization of the Michigan Potato Growers' Exchange and its locals? Did not the poul-

try and egg producers of Minnesota avail themselves of outside assistance in forming the district associations which are the basis of the central marketing association? Was the development of these federations, after all, such a slow and long drawn out process? It is true that many federations have been the result of a gradual development of locals and consequently have involved considerable time, but this is because the prime purpose at the outset has not been to establish a central. Where the entire plan of a federation is conceived at the outset, its organization need not take any greater time and effort than the organization of the same growers into a centralized association.

Is it true that the federated plan is built primarily upon an intangible spirit of cooperation and that the centralized plan rests its case upon the price appeal? Any assertion of this character seems to lose sight of the fact that all cooperative marketing enterprises are merely business undertakings. The motive which leads to organization is the expectation that better prices will be obtained. It is difficult to believe that very many members join any marketing organization merely because they are moved by the "spirit of cooperation." The desire for profits rather than the desire to cooperate for the sake of cooperation, is the motivating force.

The suggestion made by Mr. Powell and others that organization should be born of necessity, no doubt has in mind primarily the thought that there must be "a need" in the sense that there is service for the organization to perform. In fact, Mr. Powell stated it somewhat from that viewpoint when he wrote that "The reason for an industrial organization among farmers must lie in some vital service which it is expected to perform, * * *"[2] Every marketing organization formed among farmers might be said to rest upon a real or imaginary need, interpreting this to mean that there is work for it to do.

When the organizer resorts to the price appeal, he is creating a feeling of such a need in the minds of the growers. The farmer who, Mr. Tobriner suggests, is thinking of "getting even" with the packer, is in reality developing a feeling of "need" for organization. Does not therefore the essential

[2] Powell, G. Harold, "Cooperation in Agriculture," p. 21.

point of difference lie, not so much in the question as to whether or not a feeling of need is relied upon, as in whether or not that need is real or largely imaginary? Professional organizers are not always averse to playing upon the imagination and may create a feeling of need which is entirely out of proportion to the service which the organization later can render. Organization "drives" in which the methods of the revival meeting are invoked to manufacture enthusiasm are not without decidedly objectionable features. Many illustrations of failure in the case of cooperative associations which have been brought into being by such methods come to mind. Banks, factories, stores, and other business enterprises are not established by means of emotional appeal. Why should such methods be depended upon in organizing farmers' associations? It is true that the idea has to be presented to a large number of people and that a certain amount of enthusiasm for the project is essential. The presentation, however, should be one of realizable possibilities and not of promises impossible of achievement. Instances of overselling cooperation are not infrequent and present a real obstacle to the permanent growth of the movement.

The spirit of cooperation does play an important part in organized effort. That spirit is dependent upon such things as the understanding of the members of the organization's program, their confidence in the association and its management, their contact with the management, and the amount and kind of information given them. The spirit of cooperation is a factor in the operation of the association rather than in its organization. Cooperatives are dependent upon membership loyalty. It is true, as Mr. Tobriner says, "that a cooperative society can be built upon the price appeal, backed by the law * * *," but how about its maintenance? If the price appeal turns out to have been greatly overemphasized, will the backing supplied by legal action suffice? Can loyalty enforced by legal power take the place of voluntary loyalty? Certainly not. The legal enforceability of contracts is simply an aid and a protection. This was well stated recently by one of the leaders in the development of large-scale enterprises in the following words: "The use of

courts is only to establish rights, not to enforce them. We have got to make them enforce them in order to find out what they are, but if you depend upon the courts as such to establish your associations by suits, you are ruined already, because every time you sue a member, he and his family and his friends all become enemies of the association, or in most cases, when you do that you build up little sore spots all over your jurisdiction. You do not teach them; all you do is to offend them."[3] Court action is aimed at the exceptional individual rather than the rank and file. If the fear of legal proceedings is all that holds the members of an association in line it will have a merry time securing their signature to another contract when renewal time comes around.

Every organization therefore needs for its successful operation a spirit of cooperation. This is as true of the centralized as of the federated organization. This is fully realized by the large-scale associations now in operation. Any one doubting this will be convinced if he takes the trouble to note the emphasis which they are placing upon the development of a proper membership relation and attitude.[4] Many centralized associations are resorting to the establishment of informal locals to supply contact points. In this respect, the federation has an advantage in that its local units supply such contact points. The development of a cooperative spirit in the above sense is usually a question of time in every organization. It may be more in evidence in a local undertaking because the problems are simpler and are more apparent to the members, and also because they come in closer contact with the management. In a large-scale venture which has been organized as the result of an intensive drive, whether a federation or a centralized association, the development of a proper spirit of cooperation is likely to be one of the major problems.

What of the objections raised by Mr. Tobriner with respect to building upon the basis of local groups? The objection that this method requires too long a time has been answered above, namely that if the entire plan is conceived at the outset a fed-

[3] Sapiro, Aaron, "Proceedings of the Third National Cooperative Marketing Conference," p. 43.

[4] The prominent place given to the consideration of field service and educational work at the recent National Cooperative Marketing Conference, is an illustration of this.

eration may be organized in a comparatively short while. For instance, the Michigan Potato Growers' Exchange was organized fairly rapidly. The same is true of the egg marketing association in Minnesota. It is true that the Minnesota Cooperative Creameries Association was not formed until local cooperative creameries had been in operation for a long time, but the organization of a central selling association was not planned until recently. It evidently has gained the affiliation of members rather quickly after it was once started. Is this method more difficult? Undoubtedly, it is both slower and more difficult if the matter of organization is left entirely to the different localities. How about it, if the effort put forth is comparable to that applied to the organization of a centralized association? The answer would then be different. Only where this is done are the two methods comparable as far as speed and ease of formation are concerned.

Whether or not local units can be formed in communities where the foreign element is predominant depends upon the type of individuals concerned. The foreign element in some states, such as for instance Minnesota and Wisconsin, often has been mentioned as an aid to the establishment of cooperatives in those states. If one turns to consumers cooperation in this country it is found that many of the consumers' societies are among working men who have come from other lands. This is a point on which it is dangerous to draw sweeping conclusions from a specific case. What is true of Italian and Japanese farmers in one section may not apply at all to German or Danish settlers in another region.

Is the conclusion that "in the long run, the federated association is liable to be less beneficial economically and financially than the centralized association," sound? In support of this point it was suggested that locals often fail to federate and as a consequence a system of "competitive cooperation" results. This latter statement does not apply to the results of a federation but to difficulties of organizing existing locals into a federation. Is not the problem of getting locals to affiliate with an organization very similar to getting individuals to join an association? The proposi-

tion must be "sold" to them. That is, they must be convinced that it is to their advantage to affiliate. A quotation in Mr. Tobriner's article with respect to the competition of farmers' elevators against each other and their swamping of the central markets by "dumping," is lacking somewhat in conclusiveness to persons familiar with grain marketing and the farmers' elevator movement in the Middle West.

Whether or not the federated organization is "less beneficial economically and financially" than is the centralized association, is a question which is not susceptible of a blanket affirmative or negative answer. How would the two plans be compared? Can one find exact duplicates of problems, conditions, management and other factors involved? One federation may be an outstanding success; another may be a failure. The same is true of centralized associations. All one can do is to weigh the advantages and disadvantages of each plan in the light of conditions and requirements for a particular situation and a specific commodity. For some situations, such an analysis would suggest one plan; for others, another plan.

From the standpoint of membership contact, the federated plan offers certain advantages. A spirit of mutual understanding between members and management is highly desirable and local units serve this purpose admirably. Local problems are settled by local authority. The local management tends to be more responsive to members' wishes if it is dependent upon the local group for its existence than if control comes from a central office located at a distant point. The local is likely to give a more constant and direct representation of members than is otherwise obtained. The individual has a better contact with the system and therefore tends to have more of the "we" and "our" attitude than if there are no locals. The efforts of centralized associations to establish informal locals among their members to supply similar contact points, support this conclusion. Definite locals furthermore may be valuable in providing local facilities for handling and receiving products. For some commodities, pooling by localities is desirable and is facilitated by having locals. Some commodities,

on the other hand, involve marketing problems which require centralized control. General pools rather than locality pools may be essential. Problems of time distribution may be paramount. For such situations, the centralized plan has advantages.

Mr. Tobriner suggests that "The issue between the federated and the centralized association is an old one. In the business world it lies between the small-scale and the large-scale factory, and in the labor world between the trade and the industrial union." The question of the federated or the centralized plan in cooperative marketing is not a question of large or small scale. Both may be large. It is not a question between purely local and central activities. Both are central bodies. It is a question of which plan to accomplish a given purpose. Moreover, cooperative marketing is not entirely comparable with factory organization. The human factor must not be overlooked. In the case of labor unions, the getting together of workers into local units is an important part of the larger movements.

The conclusion of the present writer therefore is that adherence to a single, specific plan of organization and method of organizing should not be the end sought in the cooperative movement. We need a broader viewpoint than that often encountered. Persons who believe that only local enterprises have the elements of success as well as those who can see no merit at all in local undertakings need a better understanding of cooperative marketing. The same is true of those who insist that the centralized plan is the only plan and likewise of those who so regard federations. Even though many may agree with Mr. Tobriner that "In the cooperative movement of today, the commodity-organization is attempting to displace the locality-organization," what probably will take place is that both the centralized and the federated forms will continue and that each will tend to learn from the other and profit by each other's experiences. For new associations a careful study of the marketing problems and the conditions involved should furnish the basis in each case for an intelligent decision as to plan and procedure best suited to that particular undertaking.

NOTES

COST RATE CHARGES FOR HORSE WORK

GEORGE A. POND
UNIVERSITY OF MINNESOTA

The farm cost accountant is constantly confronted with the problem of prorating the several items of cost of farm operation to the productive enterprises in such a way that the resulting costs may serve as a basis for the selection and comparison of enterprises. The numerous items of joint cost as well as the complementary and supplementary relationships involved make the problem a complex and difficult one. For the sake of expediency purely arbitrary methods are often used even though the accountant fully realizes that at least theoretically, an error is involved in the method that may more or less obscure the relations that are being studied.

Flat Rates for Horse Work—An example of an item of farm cost that must be prorated to the productive enterprises is the expense of maintaining the work horses. The expense for horse work is usually charged at a flat rate per hour. To determine this flat rate the total cost of maintaining the horses is divided by the total number of hours which they work. The rate is then multiplied by the number of hours of work chargeable to each enterprise in order to arrive at the total horse charge against that enterprise. Obviously such a method is open to criticism. Some crops require large amounts of horse work for a few days during the rush of the planting or harvest season. Extra horses may be kept throughout the year to handle these peak loads. Livestock, on the other hand may present a fairly uniform demand for horse work throughout the year or their heaviest demands may come during the winter when crops are not demanding attention.

It may not be altogether fair to charge to all enterprises the cost of extra horses kept to handle the peak loads when certain enterprises contribute most largely to these peaks.

As an example of the inequality that might result from the use of a "flat rate" let us consider a farm which could easily be operated by six horses during the entire year with the exception of a few weeks during wheat seeding and harvest. An extra team must be maintained throughout the year simply to have its services available for this peak demand of the wheat crop. Under the "flat rate" method of distributing horse costs all enterprises on the farm would bear part of the cost of this extra team, although they could have been maintained as well without it. As a matter of fact this extra team may have done work on other enterprises than the wheat crop during the year. Such use would merely be by way of substitution for the other six horses and

would result in their being used below capacity. This practice merely confuses the principle. Had this team been maintained in idleness except for the few weeks and then used only in wheat production all costs of its maintenance could be charged directly to the wheat crop. The cost of the remaining six horses could then be charged to all the enterprises on a flat hour basis. This example is sufficient to indicate the nature of the problem and the complications involved.

Adjusted Horse Work Rates.—A method of prorating horse costs to farm enterprises based on intensity of seasonal demand for horse work by these several enterprises is possible. The adjusted charge thus computed would avoid some of the criticisms of the flat rate method just described. Such a method is illustrated in the following table with data from an individual farm:

COMPARISON OF FLAT AND ADJUSTED HORSE WORK RATES

	Hours horse work performed classified by number of horses working simultaneously						Charge	
	1 horse	2 horses	3 horses	4 horses	5 horses	Total hours	Flat rate	Adjusted rate
Corn	--	731	379	645	845	2600	$246.84	$265.50
Oats and barley	--	171	32	472	164	839	79.65	85.01
Alfalfa	--	53	1	40	46	140	13.29	14.02
Hay	--	42	1	48	--	91	8.64	6.66
Cattle	20	83	--	18	19	140	13.29	8.68
Swine	2	57	--	12	40	111	10.54	10.38
Poultry	5	18	--	--	--	23	2.18	.79
Machinery	4	32	--	--	--	36	3.42	1.30
Bldg. and fences	--	142	--	8	8	158	15.00	7.65
Household	3	38	--	9	--	50	4.75	2.43
Personal	44	26	--	--	--	70	6.65	1.83
Total	78	1393	413	1252	1122	4258	$404.25	$404.25

Five horses were maintained on this farm throughout the year at a cost of $404.25. The total number of hours of work performed by these horses on each enterprise is shown in the column headed "total hours." In the preceding columns are shown the classification of these hours according to the number of horses that were working simultaneously while these hours were being expended. For example all the work in the column headed "one horse" was one horse work done when the remaining four horses were idle. The work reported in the column headed "five horses" is not necessarily all five-horse work nor is it to be implied that all five horses worked on one enterprise for the whole time charged against that enterprise. It simply means that for 224.4 hours all five horses were working at the same time thus performing the 1,122 hours of work indicated.

The total cost of horse labor is first prorated to the several enterprises on a "flat rate" basis. This rate, 9½ cents per hour, obtained by dividing $404.25 by 4,258, is in turn multiplied by the hours in the "total hours" column to get the charge in the "flat rate" column. In making the adjusted charge the average cost per horse, $80.85, is used as a basis. This assumes an equality of costs between the five horses. This cost of the first horse, $80.85, is charged against the enterprises represented in the "five horse" column on the basis of hours performed

on each. The cost of the second horse is then charged to the enterprises represented in the "four horse" and "five horse" columns. This cost, $80.85, is divided by the sum of the total hours in these two columns, 1,122 plus 1,252, or 2,374, and the resulting rate is multiplied by the sum of the hours chargeable to each enterprise in these two columns to get the enterprise charge for this horse. This process is continued with each succeeding horse until the fifth horse is charged to all enterprises on the basis of the total hours. The accumulated charges thus computed are indicated in the column headed "adjusted rate."

Comparison of "Flat Rate" and "Adjusted" Charges.—It will be noted that in general the adjusted charge against the crop enterprises is larger than the flat rate charge and less in case of the livestock and miscellaneous enterprises.

Since crop labor demands are characterized by seasonal peaks it might seem only fair that crops bear a relatively larger share of horse costs, especially if their peak demands require more horses to be maintained than would be the case if requirements were just as large but more uniformly distributed. Theoretically then, this method of prorating horse costs would seem to result in a more equitable distribution than the flat rate method commonly used. The question then remains as to whether the adjustment method is feasible and practicable and whether it will add enough to the value of costs so computed to justify its adoption.

Criticism of Adjustment Method.—There are several objections to this adjusted method as described or even to any variation of it that might be devised. In the first place the assumption of equal costs for all horses is not a valid one in the majority of cases. In actual practice some one or two teams do more than the proportionate share of work on most farms and incur much higher maintenance costs. They may be kept on full feed throughout the year while the remaining horses are carried through the winter on rough feed with little care and spend much time in the pasture in summer when work is slack. The cost of maintaining these latter horses is much lower than that of the horses that do the bulk of the work. The assumption then of equal costs is not a valid one and may result in an unduly high cost for certain enterprises.

It is true, of course, that individual records of costs and performance could be kept of each individual horse. With such data it would be possible to obviate the difficulty just mentioned. The impracticability of obtaining such data, however, is quite apparent to the farm accountant when he recalls the difficulties involved in attempting to get farmers to give individual labor reports for each workman. To obtain similar details on horse work would be infinitely more difficult. The accountant must then be content with the average cost basis.

Another difficulty involved is the fact that the intensity of the demand for labor is not correctly measured by this method. For example a farmer may be employing all his horses at a given time when at least

part of the work being done is capable of considerable seasonal shifting. Such a peak is merely accidental or incidental. The horses are used because they happen to be on the farm. A rearrangement of the work schedule on the farm used as an illustration might have decreased the amount of four or five horse work without any change in production. For example, it might have been as practicable to perform the eight hours of horse work on buildings and fences, which was two horse work, when no other work was being done as it was when all five horses were being worked. It must be admitted that the management of labor and the organization of work may conceal the real intensity of labor demand. This of course can be remedied to a certain extent by the accountant by deciding arbitrarily from his knowledge of the circumstances involved whether the peak is accidental or necessary. In other words, a more significant adjustment might result if the data were interpreted according to the judgment of one familiar with conditions on the particular farm in question.

Effect of Adjusted Charge on Total Enterprise Costs.—In evaluating this "adjustment" method of prorating horse costs it is advisable to compare the results obtained by that method with costs computed by the "flat rate" method. It is well to inquire whether differences are sufficient to justify the extra time and effort required in the collection and interpretation of the data required and in the calculation of the adjusted rate. Let us analyze the differences as found on the farm used as an illustration. The total cost of producing corn is increased two per cent by using the adjusted rate, oats and barley costs are increased .9 per cent and alfalfa costs .6 per cent. Total cattle costs are reduced .1 per cent, swine costs remain the same and poultry costs are reduced .7 per cent. The difference amounts to .9 cents per bushel on corn and 1/5 cents per bushel on oats. For most purposes for which farm costs are used such small differences have little significance.

It should be noted here that some of the items such as machinery, buildings and fences, and household will in turn be prorated to the productive enterprises. In case of the crop enterprises this will tend to decrease slightly the differences noted and increase only slightly the livestock differences which even then would be too small to be significant.

It is true that the data from only one farm are being considered. A much wider difference might be found on other farms. Still this farm is reasonably characteristic of a type of diversified farm that is very common in the corn belt. Larger differences might be found on specialized crop farms, particularly if some one crop with high horse work requirements was dominant. On the other hand, smaller differences would be looked for on specialized livestock farms.

Conclusion—Theoretically the "adjusted rate" method will result in a more equitable distribution of horse costs to the enterprises served. Where data sufficiently detailed for its calculation are available the accountant will undoubtedly find this method worthy of trial. Any method of making farm costs more significant as a basis for enterprise

selection is worth serious consideration. On the other hand, horse cost and performance data as collected by most farm accountants at the present time do not lend themselves readily to this type of analysis. Far more detailed records than are now obtained are required. Even then some more or less arbitrary interpolation must be made. The difference in results obtained, at least under a livestock or diversified type of farming such as is commonly found in the corn belt, is hardly sufficient to justify much additional cost or effort in collecting and computing costs. Since some interpolation is necessary in any case, it is very nearly if not quite as easy to make the necessary allowance in interpreting costs by the "flat rate" method as it is to do so in the computation of the "adjusted rate." Only in case of farms characterized by dominant crop enterprises with very marked seasonal peak demands would it seem that much extra effort would be justified in computing an "adjusted rate" as compared with a "flat rate" for horse labor. In such cases undoubtedly this method or some modification of it merits serious consideration, and more significant cost data will result from its adoption.

This "adjusted rate" should also prove valuable when an especially detailed analysis of some individual farm is desired. In addition it might be used on certain representative farms in a group in case it was not practicable to obtain data sufficiently detailed for its calculation on each farm in the group. By computing horse charges by both methods on these sample farms it would be possible to determine whether the differences between the two resulting charges were significant. In case they were, the differences found on these sample farms might be used as a basis for adjusting or interpreting the charges on those farms on which only the "flat rate" could be calculated.

BOOK REVIEWS AND NOTICES

Farm Life Abroad, by E. C. Branson, Chapel Hill. University of North Carolina Press. 1924. Pp. VIII + 303. $2.00.

This book is a collection of thirty-six letters written to the North Carolina press during the author's year abroad in 1923-24. They are popular, sketchy, repetitive, cleverly and at times epigrammatically written, and withal very interesting reading. The author achieves three results: (1) he informs us about the social and economic conditions of farm life in Germany, Denmark and France; (2) he constantly compares these conditions with those of North Carolina; and (3) he frequently generalizes and drives home a lesson for the rural people of North Carolina. Nearly a third of the book is devoted to Germany, nearly two-thirds to Denmark and a scant thirty-four pages to France where the reserve of the peasant farmers and the inertia of numerous *fonctionaires* rendered futile the author's attempts at extended study.

From Germany he gives an interesting picture of the peasant farmer, who comprises three-fifths of the total population, made wealthy during and after the war beyond anything he had ever before known, and thoroughly satisfied with his lot. This has come about because of the development of rural industries, domestic, semi-domestic, and factory, which employ farm people at good wages, and because of good prices received for farm products. The farmer immediately turns declining marks thus received into capital goods for production purposes and avoids speculation and luxury. Because of this situation there will be no revolution in Germany (p. 53), though the author sees bankruptcy just ahead for both Germany and France (p. 172)—for Germany because her mark will soon pass as a unit of value and for France because her financial policy has been based upon reparations she will never receive.

Rural Denmark stirs the author's enthusiasm. Stating that Danish farmers are the wealthiest and least bowed by work of any farmers in the world, he gives as reasons for their cooperative success; (1) poverty and comradeship in poverty at the start, (2) the universal diffusion of intelligence and

the sponging out of illiteracy, (3) density of population and country community life, (4) a geographical location offering 100 million consumers within a twenty-four hour run by rail and boat, (5) well-nigh universal farm ownership, (6) organization from the bottom up, (7) small beginnings in small groups with small capital, (8) the fundamental principle of self-help, (9) state-aid in transportation and terminal facilities (pp. 209-10).

The author found agriculture to be the despised occupation of France, that its problems were those of production solely, and that no literature on country life existed.

Because of the purpose for which these letters were written the social scientist will find them frequently unconvincing. It is to be hoped that Dr. Branson will give us another account of his researches in a more scholarly vein. If this is done the reviewer hopes that it will include an analysis of the sociological as well as economic factors which have contributed to cooperative success in Denmark.

C. E. LIVELY.

The Ohio State University.

The World Wheat Situation, 1923-24; Current Sources Concerning Wheat Supplies, Movements, and Prices; Developments in the Wheat Situation August to December, 1924. Wheat Studies of the Food Research Institute, Vol. I, Nos. 1-3. (Stanford Univ., Calif.: Food Research Inst., 1924-25, pp. 1-171.)

Numbers one and three of these studies may conveniently be considered together since both are reviews of the world wheat situation. They are, in the main, explanations of why prices were what they were, and yet they are more than that, for they look forward as well as back. They consider effects as well as causes of the price situation. The particular merit of the studies lies in the thoroughness and insight with which the analysis of supply and demand conditions is made. The price comparisons of different grades of wheat and between different markets, for example, are well worth the study of anyone interested in price theory. They

should dispel some of the naive ideas of those who talk about *the price* of wheat or those who think that there are hard and fast differentials between the prices of the various kinds of wheat or prices in different markets.

It is only natural that here and there objections may be made to certain methods of analysis or to details in the conclusions which are drawn. For example, in comparing the purchasing power of wheat in different countries (No. I, Table 2) farm prices are used as a basis for one country and wholesale prices for the others. Since it is quite without the scope of the studies, it is also unfortunate for the authors to state (No. 1, p. 4) that most of the decline in wheat prices in 1920-22 was due to monetary conditions. This controversial question is not discussed and there seems to be no occasion for taking a stand upon it.

The bibliography presented in the second study is a very convenient aid to anyone who is studying wheat prices, movements, or supplies. But even in addition to the limitations recognized by the authors, the compilation seems to show some lack either of care or of insight. For example, among the unofficial annuals in the United States are mentioned the reports of only two exchanges; the Chicago Board of Trade and the New York Produce Exchange. Since Minneapolis is the most important cash wheat market of the country and the only annual compilations which give detailed statistics for it are the reports of the Minneapolis Chamber of Commerce, it would seem that these should not have been omitted.

Judging from the first three issues, this series of wheat studies promises to be of real service. It should help those interested in the broader aspects of the wheat industry to gain a better understanding of the situation. The analyses of the various problems taken up are readable, but not superficial; they are detailed, yet the reader is not burdened with a mass of undigested figures and statements.

E. J. WORKING.

Institute of Economics.